5G, Edge and IoT/Embedded Building Block Solutions

Connecting the Intelligent World from Devices to the Cloud
Long-life Cycle · High-Efficiency · Compact Form Factor · High Performance · Global Services

SMART CITIES & SPACES
INDUSTRIAL
SMART HEALTHCARE
RETAIL & FOODSERVICE
ENERGY & POWER
5G & TELCO
5G, EDGE AND IOT/EMBEDDED BUILDING BLOCK SOLUTIONS

Hyper-E Ultra Short-Depth Outdoor Edge Rackmount Wall-Mount IPC Compact Box Fanless Compact Fanless Gateway Top-Loading Storage

Supermicro Building Block Solutions for 5G Networks, the Intelligent Edge, and Embedded Applications
October 2021
Vertically Driven – Horizontally Focused

Portfolio now spans from data center-class performance with the latest 3rd Gen Intel® Xeon® Scalable processors and NVIDIA Ampere GPUs down to embedded-optimized Intel® Atom™ and Core SoCs. 5G/Edge systems now part of Supermicro’s Global SKU program.

Supermicro Strengths and Highlights

Supermicro commitment to Telco requirements and demanding environments:

• World-class engineering delivering rapid time-to-market solutions
• Complete platform encompassing Edge – Core – Cloud
• Enhanced scalability & flexibility vs traditional siloed, bare metal, approaches
• High availability and resiliency in architecture enabling non-disruptive upgrades
• Cost effective: procure infrastructure components as needed
• Easily adapted to meet new performance demands
• Flexibility with incorporating new technologies: allows for heterogeneous environments
• Commercial flexibility: OpEx platform as a service (PaaS)
• Extensive partner network: deployment, servicing, B2B relationships
• Integration, lab, and engineering services
• Telecom-compliant systems: NEBS Level 3 certification, DC power supply options, short-depth chassis, front I/O, IP65-rated enclosures
Optimized Platform for 5G/Telco Applications

Highly configurable 2U Edge server with dual 3rd Gen Intel® Xeon® Scalable processors and AC and DC power supply options.

Ultra short-depth 2U rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor and redundant DC power supplies.

Short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor and redundant DC power supplies.

Configurable Edge server with Intel® Xeon® D processor in an environmentally-hardened enclosure with IP-65 rating and AC and DC power supply options.

Solutions

- 5G and LTE virtual RAN including O-RAN DU and CU
- Multi-access Edge computing (MEC) with AI accelerators, VPUs, and FPGAs
Intelligent Retail and Foodservice

- Providing disruptive AI-based solutions to help retailers, hospitality, and restaurants to take advantage of technological and societal advancements
- Improving customer experience using AI, augmented/virtual reality, digital signage, kiosks, and analytics
- Support for highly secure, Zero Trust, high availability systems to provide complete, optimized solutions – ensuring 100% uptime

Highlight Systems

SYS-E403-12P-FN2T  Configurable wall-mount Edge server with 3rd Gen Intel® Xeon® Scalable processor
SYS-110P-FRN2T  Short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor
SYS-210P-FRDN6T  Ultra short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor
SYS-E300-9D-8CN8TP  Compact server with Intel® Xeon® D processor
SYS-E302-9A  Ruggedized compact fanless server with Intel® Xeon® D processor
SYS-E100-12T-E  Ruggedized ultra-compact fanless server with Intel® Core™ processor

Solutions

- Retail Edge platforms that orchestrate distributed computing in multiple locations with centralized management
- On-premises analytic platforms for real-time insights into operational and customer dynamics
Industry 4.0

• Solutions for device connectivity and intelligence at the Edge, enabling streamlined operation and increased automation
• Supporting AI- and computer vision-based controls to improve quality, worker safety, and increased revenue
• Reliable operation of a wide range of optimized compute architectures such as Edge AI in extreme environments

Highlight Systems

SYS-E403-12P-FN2T
Configurable wall-mount Edge server with 3rd Gen Intel® Xeon® Scalable processor

SYS-E302-9A
Compact fanless server with Intel® Atom® processor

SYS-E100-9W-IA-H
Ruggedized compact fanless industrial PC with Intel® Core™ processor

SYS-110P-FRN2T
Short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor

SYS-220HE-FTNR
High-performance, highly-configurable 2U Edge server with dual 3rd Gen Intel® Xeon® Scalable processors

Embedded MBDS
Power-efficient boards for embedded industrial applications

Solutions

• Industry 4.0 Edge AI solutions for robotic controls and logistics
• Industrial systems and applications for production and manufacturing
• Computer vision for quality control including defect detection

Embedded/IoT Building Block Solutions - October 2021
Smart Cities and Smart Spaces

- Edge computing distributed across multiple locations supporting transportation, security, venues, cities, and buildings to improve community safety and quality of experience (QoE) with innovative connected applications
- AI inferencing and visual computing in Outdoor Edge locations, enabling intelligent surveillance and accurate incident reporting for faster response times
- Supporting V2X for parking, traffic, and pedestrian safety, autonomous vehicle support, and public transportation improvements

Highlight Systems

- SYS-E403-9D-16C-IPD2
  Configurable Edge server with Intel® Xeon® D processor in an environmentally-hardened enclosure.
- SYS-220HE-FTNR
  High-performance, highly-configurable 2U Edge server with dual 3rd Gen Intel® Xeon® Scalable processors.
- SYS-E403-12P-FN2T
  Configurable wall-mount Edge server with 3rd Gen Intel® Xeon® Scalable processor.
- SYS-110P-FRN2T
  Short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor.
- SYS-E302-9D
  Ruggedized compact fanless server with Intel® Xeon® D processor.
- SYS-E100-12T-E
  Ruggedized ultra-compact fanless server with Intel® Core® processor.

Solutions

- Distributed AI-powered pole-mount systems for safety and security
- Smart stadium system to provide absolute best fan experience with interactive, responsive services
Smart Healthcare

- Local Edge computing to optimize the use of critical resources in emergency situations
- Distributed Edge computing to implement contact tracing via real-time analytics
- Remote patient monitoring, augmented by Edge AI inferencing, to improve patient quality of life and outcomes
- Fanless, silent server hardware ideal for delicate medical environments

Highlight Systems

<table>
<thead>
<tr>
<th>Solution</th>
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</thead>
<tbody>
<tr>
<td>SYS-E403-12P-FN2T</td>
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<td>SYS-110P-FRN2T</td>
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<td>SYS-E302-9A</td>
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<tr>
<td>SYS-E100-12T-E</td>
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<tr>
<td>Embedded MBDs</td>
</tr>
</tbody>
</table>

Solutions

- Remote patient monitoring (RPM) for at-home, in-clinic, and remote locations
- ICU bed optimization for real-time ICU shortfalls and availability, and medical asset management
X12 3rd Gen Intel® Xeon® Scalable processors

High-efficiency, High-performance Portfolio with Compact Form Factors and Long-life Cycle

The 3rd Gen Intel® Xeon® Scalable processors are the latest CPUs designed for a range of workloads. From the Edge to on-prem and cloud data centers, this new Intel® CPU offers outstanding performance on several benchmarks and includes new features that enable a new level of security and AI acceleration. With more cores at higher frequencies than previous generations of CPUs, the 3rd Gen Intel® Xeon® Scalable processors enable new and innovative applications to be created and deployed from 5G/Telco applications to large-scale analytics. The increase in I/O performance due to PCI-E 4.0 allows faster communication to accelerator options. The amount of directly addressable memory is also increased, allowing more data to be kept in memory.

Data center-class processing at the Edge

Connecting the intelligent world from devices to the cloud

Low-power high-efficiency computing

Long-life cycle

Compact form factors

System Solutions

Expanding our Product Portfolio to address 5G, Edge Computing, and Emerging IoT Systems

Supermicro provides innovative and first-to-market technologies that are the building blocks for today’s embedded computing platforms. Rapid growth in embedded markets and open standards are driving the need for higher levels of product integration and optimization through virtualization, AI inferencing, network connectivity, remote management, mobile communication, expanded I/O, and device-to-device communications using space and power efficient configurations.

Supermicro’s family of high-performance embedded products are optimized for a wide range of applications and solutions.

The Hyper-E Edge server features NEBS Level 3 certification and is purpose built for far-edge deployments to operate in harsh environments with challenging thermal conditions, and withstand seismic events. Hyper-E is designed to meet the performance demands and energy consumption restrictions required by high-density Tier 1 Telco providers, while providing long-lifecycles and maximum uptime.

Supermicro offers many flexible and customized solutions for critical OEM projects, as well as advanced designs for stringent environments, firmware customization, BOM enhancements, and a wide range of legacy IO support.
X11 Intel® Xeon® Scalable Processors
Single/Dual Processor System Solutions (Cascade Lake/Skylake, LGA 3647)

Supermicro’s X11 DP/UP Embedded Motherboards and Systems offer the highest levels of performance, efficiency, security and scalability in the industry with up to: 3TB DDR4 2666MHz in 24 DIMM slots per node, 7 PCI-E slots, SAS 3.0/SATA 3.0/NVMe hot-swap HDD/SSD support, 10GBase-T/10G SFP+/56Gbps FDR InfiniBand networking options, SATA Disk-on-Module (DOM), and IPMI 2.0 plus KVM with dedicated LAN, and can support new SKU of 2nd Gen Intel® Xeon® Scalable processors. The embedded boards offer 7 year life cycle.

System Solutions

UP Motherboard Solutions

| C621 | 28 cores | 165W |
| C622 | 28 cores | 205W |

X11SPL-F
X11SPH-nCTF\nCTPF
X11SPW-CTF
X11SP-TF
X11SPM-\nTF\TPF

DP Motherboard Solutions

- \nC621 | 28 cores | 205W
- \nC622 | 28 cores | 205W

X11DPI-N/NT
X11DPH-T
X11DAi-N
X11DPM-\nTF\TPF
X11 Intel® Xeon® D-2100 Processors

High Core, High Performance (FCBGA 2518, SoC)

Supermicro X11 Generation of Motherboards/Servers support Intel® Xeon® D-2100 (Formerly Skylake-D) series system-on-chip (SoC) processors.

Systems include up to four integrated ports of 10 Gigabit Intel® Ethernet, and up to 512GB of addressable memory with Error Correcting Code (ECC), and Intel® QuickAssist Technology (QAT) provides up to 100Gbps of hardware acceleration for compute-intensive, such as cryptography, encryption, and description.

System Solutions

Motherboard Solutions
**X11 Intel® Xeon® E-2100 and E-2200 Processors**

*High Core, High Performance (FCLGA 1151)*

Supermicro X11 Motherboards and Servers support Intel® Xeon® E-2100 and E-2200 (Coffee Lake / Refresh) Series processors with enterprise-class reliability and performance, offering server-class motherboards and entry-level servers. Intel® Xeon® E introduces the first 6-core/12-Thread processors with optimized 14 nm technology. These processors offer thermal design power (TDP) options of (35W - 95W) to fit specific designs configurations with performance and low-power requirements. The E series processors are ideally suited for a wide range of embedded/IoT, Networking and Storage Applications.

### System Solutions

**SYS-1019C-FHTN8 1U • 15” depth**
- Up to 128GB ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- 8x 1GbE, 1 dedicated IPMI LAN
- 1 VGA, 2 USB 3.1, 2 USB 2.0
- 1 PCI-E 3.0 x16
- Dual M.2 M key (22110/2280)
- 2x 2.5” Hot Swap, 2x 2.5” Internal SATA3 Drive Bay

**SYS-5019C-MHN2 1U • 19.8” depth**
- Up to 128GB ECC UDIMM, up to DDR4-2666MHz, 4 DIMM slots
- 1 PCI-E 3.0 x16 slot
- 4 Hot-swap 3.5” drive bays
- Dual LAN with Intel® Ethernet Controller i219LM and i210AT
- 1U 350W Multi-output Platinum Level power supply

**SYS-1019C-HTN2 1U • 111.3” depth**
- Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- Remote management via dedicated IPMI BMC
- 4 USB 3.1
- 2 DP, DVI-I, VGA, Audio
- PCI-E 3.0 x 16 HH/HF slot; M.2 (M key, 22110/80, PCI-E 3.0 x4/SATA)

### Motherboard Solutions

- C246 | 6 cores | 95W
- C246 | 6 cores | 95W
- C246 | 6 cores | 95W
- C246 | 6 cores | 95W
- C246 | 6 cores | 95W
- C246 | 6 cores | 95W

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Embedded/IoT Building Block Solutions - October 2021
Supermicro’s newest generation X12 UP Embedded Motherboards with Intel’s Xeon® W-1200 series and 10th Generation Core i9/i7/i5/i3/Pentium/Celeron series processor offer the highest levels of performance, efficiency, security and scalability in the industry with up to: 128GB DDR4 2933MHz in four DIMM slots, CPUs up to 10 cores, PCI-E slots with bifurcation support, USB 3.2 Gen 2, M.2 E/M-keys, and SATA 3.0 (6Gbps).

Designed with performance, reliability, manageability, and long-life support in mind, Supermicro’s single processor motherboards are the perfect solution for a variety of multitasking and heavy workload applications.

System Solutions

Motherboard Solutions

<table>
<thead>
<tr>
<th>W480E</th>
<th>Up to 10 cores</th>
<th>125W</th>
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<tbody>
<tr>
<td></td>
<td>2x 10G Base-T</td>
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<td></td>
<td>2x 1G Base-T</td>
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<table>
<thead>
<tr>
<th>W480E</th>
<th>Up to 10 cores</th>
<th>65W</th>
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<tr>
<td></td>
<td>2W Audio Amplifier</td>
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<tr>
<th>X12SCZ-TLN4F</th>
<th>X12CV-LVDS</th>
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<th>W480</th>
<th>Up to 10 cores</th>
<th>125W</th>
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<tr>
<td></td>
<td>2x 1G Base-T</td>
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<table>
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<tr>
<th>Q470E</th>
<th>Up to 10 cores</th>
<th>125W</th>
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<tbody>
<tr>
<td>VGA, HDMI, DVI-D, DP</td>
<td>2x 1G Base-T</td>
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<table>
<thead>
<tr>
<th>X12SAE</th>
<th>X12SCA-F</th>
<th>X12SCZ-F</th>
<th>X12SCQ</th>
<th>X12SCZ-QF</th>
</tr>
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</table>

NEW!
X10 Intel® Xeon® D-1500 Processors
High Core, High Performance, Low Power (FCBGA 1667, SoC)

Supermicro X10 Motherboards and Servers support Intel® Xeon® D-1500 (Formerly Broadwell-DE) series system-on-chip (SoC) processors. Based on Intel’s third-generation 64-bit system on a chip (SoC) and 14 nm silicon technology, the Supermicro product lineup offers processor scalability from two up to sixteen cores, making it the perfect choice for a broad range of high-density, high-performing, midrange-power solutions (TDP ~25W to 65W) that brings superior design solutions to the intelligent Edge.

The Intel® Xeon® processor D-1500 product family is offered with a seven-year extended supply life and 10-year reliability for Internet of Things designs.

Mini-ITX System Solutions

SYS-5018D-FN4T*1U • 9.8" depth

- Front I/O, Space-efficient, compact design
- Intel® Xeon® processor D-1541, Single socket FCBGA 1667; 8-Core, 45W
- 1 PCI-E x 16, 1x M.2 PCI-E x 4 (Supports NVMe, AHCI) 2242/2280
- Up to 128GB ECC RDIMM DDR4 2400MHz or 64GB ECC/Non-ECC UDIMM in 4 sockets
- Dual 10GbE LAN and Intel® i350-AM2 dual port GbE LAN

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Flex-ATX System Solutions

SYS-1018D-FRN8T1U • 16.9" depth

- Intel® Xeon® SoC 16 Core, 32 Threads, 65W, 1.7~2.3GHz
- VT-d/x, TXT, AES-NI, Intel® Xeon® RAS, Built-in 10GbE
- Up to 128GB 2133MHz DDR4 RDIMM or 64GB 2133MHz ECC/Non-ECC UDIMM
- IPMI 2.0 with KVM Dedicated port
- 6x GbE LAN and Dual 10G SFP+

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* Microsoft Azure Certified. Please see page 44 for complete list.
Supermicro X11 Single Processor servers now support E3-1200 v6/v5 (Kabylake/Skylake) series processors. Server motherboards coupled with the long-life C236 PCH Chipset provide up to 7 years of extended life for embedded applications. These systems deliver breakthrough performance, high performance graphics, stronger security and power efficiency over previous generation products. The systems are ideal for a wide range of IoT applications, including industrial control and automation, retail kiosks and medical devices.

System Solutions

**SYS-5019S-M2, 1U • 19.85" depth**

- Up to 4 DIMMs, 64 GB of 2400MHz DDR4 UDIMM ECC/NON-ECC
- Intel® Xeon® E3-1200 v6/v5 & 7th/6th Gen Intel® Core™ i7, i5, i3, Pentium®, Celeron® processor in LGA1151 | C236
- 2 DP, DVI-I, total 3x independent display
- 4x 3.5" SATA3 hot-swap drive bays
- Intel® vPro™ and AMT
- 2 Gigabit LAN with AMT
- 1 PCI-E 3.0 x16 FH, FL slot
- 7 year life cycle

Motherboard Solutions

- **X11SSH-F**
- **X11SSH-LN4F**
- **X11SSH-TF**
- **X11SSH-CTF**
- **X11SSM**
- **X11SSM-F**
- **X11SSL**

- **X11SSL-F**
- **X11SSL-CF**
- **X11SSL-nF**
- **X11SSW-F**
- **X11SSW-TF**
- **X11SSW-4TF**
- **X11SSi-LN4F**

- **X11SSA-F**
- **X11SAE**
- **X11SAE-F**
- **X11SAE-M**
- **X11SSZ-F**
- **X11SSZ-QF**
- **X11SSZ-TLN4F**
Supermicro A2 Generation of Motherboards/Servers support Intel® Atom™ Processors C3000 (Formerly Denverton) series system-on-chip (SoC) Processors.

Based on low-power Goldmont microarchitecture and 14-nanometer process technology, this product family extends the scalability of Supermicro Products into industry-leading performance per watt, low thermal design power (TDP), and unprecedented levels of configurable high-speed I/O for accelerated innovation across networking, storage, Internet of Things (IoT), and Scalable solutions. It also offers hardware assist Intel® QuickAssist Technology (Intel® QAT) to accelerate storage compression and cryptographic workloads.

### System Solutions

**SYS-5019A-FTN41U • 9.8” depth**
- 1x 3.5” or 4x 2.5” internal drive bays
- 1 PCI-E 3.0 x4, 1 M.2 (M key for SSD, 2242/2280, PCI-E 3.0 x2 or SATA3)
- Up to 256GB ECC RDIMM DDR4 2400MHz or 64GB ECC/non-ECC UDIMM in 4 DIMM slots
- 4 GbE LAN, 1 dedicated IPMI LAN

**SYS-5019A-FN5T1U • 9.8” depth**
- 1 PCI-E 3.0 x8, 1 M-Key 2242/80 supports PCI-E 3.0 x2/SATA
- 1 B-Key 3042/2280 supports PCI-E 3.0 x2/SATA/USB
- 4x 10GbE LAN ports, 1x 1GbE LAN port (IPMI shared LAN), 1x COM, 4x USB 3.0
- SoC controller for 2 SATA3 (6Gb/s) ports
- 1x 3.5” or 2x 2.5” HDD

### Motherboard Solutions

<table>
<thead>
<tr>
<th>Model</th>
<th>Core Count</th>
<th>Power</th>
<th>Mini-ITX</th>
<th>Flex-ATX</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3338</td>
<td>2 cores</td>
<td>9W</td>
<td>A2SDi-2C-HLN4F</td>
<td>A2SDi-12C-HLN4F</td>
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<tr>
<td>C3558</td>
<td>4 cores</td>
<td>16W</td>
<td>A2SDi-4C-HLN4F</td>
<td>A2SDi-16C-HLN4F</td>
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<tr>
<td>C3758</td>
<td>8 cores</td>
<td>25W</td>
<td>A2SDi-8C/8C-HLN4F</td>
<td>A2SDi-16C-HLN4F</td>
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<tr>
<td>C3858</td>
<td>12 cores</td>
<td>25W</td>
<td>A2SDi-12C-HLN4F</td>
<td>A2SDi-16C-HLN4F</td>
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<tr>
<td>C3958</td>
<td>16 cores</td>
<td>31W</td>
<td>A2SDi-H-TP4F</td>
<td>A2SDi-16C-TP8F</td>
</tr>
<tr>
<td>C3958</td>
<td>16 cores</td>
<td>31W</td>
<td>A2SDi-H-TP4F</td>
<td>A2SDi-16C-TP8F</td>
</tr>
</tbody>
</table>
Supermicro A1 Generation of Motherboards/Servers support Intel® Atom™ Processors C2000 (Formerly Avoton, Rangeley) series system-on-chip (SoC) Processors.

Based on low-power Silvermont microarchitecture and 22-nanometer process technology, this product family extends the scalability of Supermicro Products into smaller footprints, low power, and hardware assisted encryption/compression engines for networking communications, storage and intelligent systems applications.

This product family offers multi-core processing capabilities (from two cores to eight cores), a range of thermal design power (TDP) from 7 to 20 watts, supports energy-efficient network designs with dual 1G to Dual 10G LAN Ports, Multiple Display capabilities, including fanless embedded designs.

**System Solutions**

**SYS-5018A-LTN4 1U • 9.8” depth**
- Up to 2 DIMMs, 16GB of DDR3 ECC SODIMM 1333MHz
- 2x 3.5” or optional 4x 2.5” internal SATA2 and SATA3 Drive Bays
- 1x PCI-E 2.0 x8 Slot, 2x USB 3.0, 2x USB 2.0, VGA, COM,
- Quad GbE LAN ports, IPMI 2.0 on Dedicated LAN port
- 200W Gold Level Low-Noise Power Supply

**SYS-5028A-TN4 Mini Tower**
- 4 DIMMs / 64GB of DDR3 ECC SODIMM 1600MHz
- 4x 3.5” hot-swap SATA trays, 2x 2.5” internal HDD Drive Bays
- 1 PCI-E 2.0 x8 Slot, 2 USB 3.0, 2 USB 2.0, VGA, COM,
- Quad GbE LAN ports, IPMI 2.0 on Dedicated LAN port
- 250W Bronze Level Low-Noise Power Supply

**Motherboard Solutions**

<table>
<thead>
<tr>
<th>Mini-ITX</th>
<th>Proprietary</th>
<th>mATX</th>
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</thead>
<tbody>
<tr>
<td>-550F: C2550</td>
<td>4 cores</td>
<td>14W</td>
</tr>
<tr>
<td>-750F: C2750</td>
<td>8 cores</td>
<td>20W</td>
</tr>
<tr>
<td>C2358</td>
<td>2 cores</td>
<td>7W</td>
</tr>
<tr>
<td>-750F: C2750</td>
<td>8 cores</td>
<td>20W</td>
</tr>
</tbody>
</table>

* Microsoft Azure Certified. Please see page 44 for complete list.
Intel® Xeon® E3-1500 v5
Pro Graphics P580 GTe4 (FCBGA 1440)

Supermicro X11 Single Processor servers with E3-1500 v5 (Skylake-H) series processors provide up to 26% higher graphics performance than the previous-generation E3-1200 v4 processors. For dense and high-capacity media processing over the net, these systems can deliver up to 18 AVC streams or 8 HEVC streams at 1080p 30 frames per second (FPS), or 2 HEVC streams at 4K 30 FPS.

SYS-5019S-TN4 1U • 9.8" depth
- Single socket FCBGA 1440 supports Intel® Xeon® processor E3-1585 v5, 8 Threads
- Intel® C236 chipset
- 1x 3.5" or 4x 2.5" HDD
- Up to 32GB Unbuffered ECC SO-DIMM DDR4 2133MHz; 2 DIMM slots
- 1 PCI-E 3.0 x16, 1 Mini-PCI-E with mSATA, 1 M.2 (M Key, 2242/2280)

X11 Intel® Core™ i9, i7, i5, i3, 8th/9th Gen Single Processor
Up to 6 cores with Q370 Chip Set (Coffee-Lake, FCBGA 1151)

Supermicro single processor X11 designs feature the Intel® B360/Q370/H310 chipset which support the Intel® 8th Generation Core™ i7/i5/i3 processor family. With outstanding features that include up to 64GB non-ECC fast DDR4 DRAM in 4 DIMMs, USB 3.0/USB 3.1, PCI-E 3.0 M.2, and SATA 3.0 (6Gbps) HDD. With support for next generation graphics controller, 4K HD graphics resolution and multiple displays. Designed with performance, reliability, manageability and long-life in mind, Supermicro’s single processor motherboards are the perfect solution for a variety of multi-tasking, heavy workload applications.
Intel® Core™ i7, i5, i3 Single Processor

Higher Performance with improved graphics and better power efficiency (Skylake-S/Kabylake-S)

The 7th/6th Gen Intel® Core™ processors deliver significant improvements in graphics performance that offers stunning visuals for gaming as well as compelling 4K content creation and media playback via AVX 2.0. Offers enhanced security through AES instructions for faster encryption as well as BIOS/FW protection, new I/O connectivity and multiple independent display capabilities.

System Solutions

SYS-1019S-M2  Compact 1U • 16.9" depth

- Up to 64GB Unbuffered non-ECC, DDR4-2400MHz in 4 DIMM slots
- Intel® 7th/6th Generation Core™ i7/i5/i3 series, Intel® Celeron™, Intel® Pentium™
- Remote management via IPMI or vPro™ Q170
- 2 Gigabit LAN ports, 2x DP, DVI-I, 3 independent displays
- Full Height and Full Length add on card support
- Power redundancy or BBP™ support

SYS-5019S-M2  1U • 19.85" depth

- Intel® C236
- 4 cores | 80W
- Up to 4 DIMMs, 64 GB of 2400MHz DDR4 UDIMM ECC/NON-ECC
- Intel® Xeon® E3-1200 v6/v5 & 7th/6th Gen Intel® Core™ i7, i5, i3, Pentium®, Celeron® processor in LGA1151 | C236
- 2 DP, DVI-I, total 3x independent displays
- 4x 3.5" SATA3 hot-swap drive bays
- Intel® vPro™ and AMT
- 2 Gigabit LAN with AMT
- 1 PCI-E 3.0 x16 FH, FL slot
- 7 year life cycle

SYS-5029S-TN2  Mini Tower

- Intel® Q170
- 4 cores | 80W
- Compact Mini Tower 7th/6th Gen. Intel® i7/i5/i3 Core™ Server
- 32GB Unbuffered non-ECC SODIMM, DDR4-2400MHz, in 2 DIMM slots
- 7th/6th Generation Intel® Core™ i7/i5/i3, Pentium and Celeron Processor in LGA1151 Socket | Q170
- Up to 4 Hot-Swap 3.5" SATA3 HDD, 1 internal 2.5" fixed HDD and 1 M.2 (M key 2242/80 PCI-E 3.0 x4)
- 2 Gigabit LAN ports
- Embedded long-life
- Quiet Operation
- 1 slim DVD-ROM drive bay (shared with 1 internal 2.5" drive bay)

Motherboard Solutions

- 4 cores | 91W
- X11SSQ/L
- X11SSZ-QF
- X11SSZ-TLN4/F
- X11SSV-Q
- X11SSV-LVDS
Intel® Atom™ & Intel® Pentium Processors
(Apollo Lake)

Supermicro X11 Generation of Motherboards/Servers support Intel® Atom™ processor x5-E3900 and Pentium processor N4200 (Formerly Apollo Lake) series system-on-chip (SoC) Processors.

Based on Goldmont architecture and utilizing Intel’s industry-leading 14 nm process technology, the Supermicro high density, low-power Motherboard/Server solutions provide great options for value-segment buyers who need basic functionality at an affordable price. The solutions are ideal as IoT Gateway/Edge Computing, that focus more strongly on data collection and real-time communication over networks, provide telemetry and usage information helping to drive predictive analytics, even perform inference locally to take actions without latency. Empowers real-time computing in intelligent AIoT applications for retail, industrial and medical, and more.

System Solutions

SYS-E50-9AP-WIFI*
- Built-in WiFi/BT combo module and 2T2R antenna
- IP51 with plastic chassis design for water/dust proof
- Cable-less design for increased reliability and cost efficiency
- Fanless design with palm-size dimension

SYS-E102-9AP-L*

Atom™ x5-E3940
4 cores | 9.5W

Atom™ x5-E3940
4 cores | 9.5W

Atom™ x5-E3940
4 cores | 9.5W

Atom™ x5-E3940
4 cores | 9.5W

Atom™ x5-E3940
4 cores | 9.5W

SYS-E50-9AP*
SYS-E50-9AP-L
SYS-E50-9AP-N5
SYS-E100-9AP
SYS-E100-9AP-IA

SYToe29AP-TN2

Pentium™ N4200
4 cores | 6W

Pentium™ N3700
4 cores | 6W

SYS-E100-9AP-
SYS-E200-9AP

SYSe200-9B

Motherboard Solutions

-H/-E: 4 cores | 9.5W
-L: 2 cores | 6.5W

A2SAP-L1: 4 Core/9.5W

-H/-E: 4 cores | 9.5W
-L: 2 cores | 6.5W

A2SAN-E/H/L

-LN4-C: 4 Cores, 10W
-LNWHE: 4 Cores, 9.5W

-H/E-WOHS: 4 cores | 9.5W
-L-WOHS: 2 cores | 6.5W

4 cores | 9.5W

SYSe200-9B

SYSe200-9B

4 cores | 6W

4 cores | 6W

4 cores | 6W

4 cores | 6W

4 cores | 6W

A2SAP-(2C)-L

X11SAN (with heatsink)

X11SAN-WOHS (without heatsink)

X11SAA

X11SBA-F

X11SBA-LN4F

* Microsoft Azure Certified. Please see page 44 for complete list.
X12 11th Generation Intel® Mobile Core Processor

**Intel® Core™ U-Series multi-chip package (MCP FCBGA-1449)**

Supermicro’s single processor Socket FCBGA-1449 feature the Intel® 11th Generation Core™ i7/i5/i3/ Celeron® processor ultra-low-power U-series with 4 Cores/8 threads for balance of power and performance. Outstanding features include up to 64GB of fast DDR4 DRAM in 2 SODIMM, 4 USB 3.2 Gen2, 4 USB 2.0, 3 M.2 with M/B/E-key, 1 Nano-SIM Slot, 4 COM ports, 12-24V wide range power input and SATA 3.0 (6Gbps) HDD. Support for next generation graphics controller, 4K HD graphics resolution and 4 displays with HDMI 2.0b/1.4b, DP1.4 (by type-C Alt mode) and 48-bit LVDS. Ideal for small form factor, energy-efficient, reliability, manageability, fanless and long-life applications.

**Fanless Compact System Solutions**

<table>
<thead>
<tr>
<th>Model</th>
<th>11th Generation Intel® Celeron® Processor, CPU TDP supports up to 15W TDP</th>
<th>11th Generation Intel® Core™ i3-1115GRE Processor, CPU TDP supports up to 15W TDP</th>
<th>11th Generation Intel® Core™ i5-1145GRE Processor, 8-bit GPIO, CPU TDP supports up to 15W TDP</th>
<th>11th Generation Intel® Core™ i7-1185GRE Processor, CPU TDP supports up to 15W TDP</th>
</tr>
</thead>
</table>
| SYS-E100-12T-C | • 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 1 DP 1.4 (type-C)  
• 4 USB 3.2 Gen 2  
• Dual 2.5Gbe LAN  
• 0°C to 50°C Operating Temperature  
• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
• 4 COM (2 RS-232/2242/2280, 2 RS-232)  
• 8-bit configurable GPIO via DB9  
• 1 TPM2.0 onboard  
• +12-24V wide range power input | SUPER® X12STN-C-WOHS  
SUPER® X12STN-E-WOHS  
SUPER® X12STN-H-WOHS | | |
| SYS-E100-12T-L | • 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 1 DP 1.4 (type-C)  
• 4 USB 3.2 Gen 2  
• Dual 2.5Gbe LAN  
• -30°C to 50°C Operating Temperature  
• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
• 4 COM (2 RS-232/2242/2280, 2 RS-232)  
• 8-bit configurable GPIO via DB9  
• 1 TPM2.0 onboard  
• +12-24V wide range power input | SUPER* X12STN-L-WOHS  
SUPER® X12STN-L-WOHS  
SUPER® X12STN-L-WOHS | | |
| SYS-E100-12T-E | • 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 1 DP 1.4 (type-C)  
• 4 USB 3.2 Gen 2  
• Dual 2.5Gbe LAN  
• -30°C to 50°C Operating Temperature  
• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
• 4 COM (2 RS-232/2242/2280, 2 RS-232)  
• 8-bit configurable GPIO via DB9  
• 1 TPM2.0 onboard  
• +12-24V wide range power input | SUPER® X12STN-E-WOHS  
SUPER® X12STN-E-WOHS  
SUPER® X12STN-H-WOHS | | |
| SYS-E100-12T-H | • 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 1 DP 1.4 (type-C)  
• 4 USB 3.2 Gen 2  
• Dual 2.5Gbe LAN  
• -30°C to 50°C Operating Temperature  
• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
• 4 COM (2 RS-232/2242/2280, 2 RS-232)  
• 8-bit configurable GPIO via DB9  
• 1 TPM2.0 onboard  
• +12-24V wide range power input | SUPER® X12STN-H-WOHS  
SUPER® X12STN-L-WOHS  
SUPER® X12STN-L-WOHS | | |

**Motherboard Solutions**

**X12STN-H/E/L/C (with Heatsink)**

- 11th Generation Intel® Core™ i7-1185GRE /i5-1145GRE/i3-1115GRE, Celeron® 6305E Processor
- Single Socket FCBGA-1449 supported, CPU TDP supports up to 15W TDP
- 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots
- 4 displays support, HDMI 2.0b/1.4b, DP1.4 (Type-C Alt Mode) and 48-bit LVDS
- M.2 2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1) with nano SIM holder
- M.2 2230 E-Key (CNV/PCH-E 3.0 x1/USB2)
- M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support
- Dual LAN with Intel® Ethernet Controller I225-IT, Industrial Grade
- 1 HD audio header, 1 speaker out header with 3W amplifier
- 4 COM ports (2 RS-232/2242/2280, 2 RS-232) (via header), 8-bit GPIO (via header)
- 4 USB 2.0 ports (4 via headers)
- 4 USB 3.2 Gen2 ports (3 Rear Type A + 1 Rear Type C)
- TPM 2.0 onboard
- +12-24V wide range power input
- -40°C to 85°C Operating Temperature (X12STN-H/E/L-C/WHOS)
- 0°C to 60°C Operating Temperature (X12STN-C)

**X12STN-H/E/L/C-WOHS (without Heatsink)**

- 11th Generation Intel® Core™ i7-1185GRE /i5-1145GRE/i3-1115GRE, Celeron® 6305E Processor
- Single Socket FCBGA-1449 supported, CPU TDP supports up to 15W TDP
- 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots
- 4 displays support, HDMI 2.0b/1.4b, DP1.4 (Type-C Alt Mode) and 48-bit LVDS
- M.2 2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1) with nano SIM holder
- M.2 2230 E-Key (CNV/PCH-E 3.0 x1/USB2)
- M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support
- Dual LAN with Intel® Ethernet Controller I225-IT, Industrial Grade
- 1 HD audio header, 1 speaker out header with 3W amplifier
- 4 COM ports (2 RS-232/2242/2280, 2 RS-232) (via header), 8-bit GPIO (via header)
- 4 USB 2.0 ports (4 via headers)
- 4 USB 3.2 Gen2 ports (3 Rear Type A + 1 Rear Type C)
- TPM 2.0 onboard
- +12-24V wide range power input
- -40°C to 85°C Operating Temperature (X12STN-H/E/L-C-WOHS)
- 0°C to 60°C Operating Temperature (X12STN-C-WOHS)

*Microsoft Azure Certified. Please see page 44 for complete list.*
Supermicro’s single processor Socket FCBGA1528 MCP feature the Intel® 8th Generation Core™ i7/i5/i3/ Celeron® processor ultra-low-power U-series with 4 Cores/8 threads for balance of power and performance. Outstanding features include up to 64GB of fast DDR4 DRAM in 2 DIMMs, 4 USB 3.1 Gen2, 3 M.2 with B/M/E-key, 1 Nano-SIM Slot, 6 COM ports, 12-24V wide range power input and SATA 3.0 (6Gbps) HDD. Support for next generation graphics controller, 4K HD graphics resolution and 3 displays with LVDS, HDMI and DP++ ports. Ideal for small form factor, energy-efficient, reliability, manageability, fanless and long-life applications.

**Fanless Compact System Solutions**

**SYS-E100-9W-H/E/L/C, 3.5” SBC**
- 8th Gen Intel® Core™ i7-8665UE/i5-8365UE/i3-8145UE/Celeron® 4305UE
- 1 HDMI and 1 Display Port
- 4 USB 3.1 Gen2, 4 USB 2.0, 4 COM (RS-232/422/485), 8-bit configurable GPIO via DB9
- 2 Gigabit Ethernet Ports
- TPM 2.0 onboard
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots
- M.2 2242/3042/2280 B-Key (USB 3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder for LTE/5G
- M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2) for WIFI/BT
- M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen3 x 1), for SATA/NVMe SSD
- +12-24V wide range power input
- Lockable 12V DC 60W power adapter
- Fanless Cooling System
- Dimensions: 195 x 44 x 151mm (7.68” x 1.73” x 5.94”)
- +12-24VDC wide range power input
- 0°C – 50°C Operating Temperature

**SYS-E102-9W-H/E/L/C, 3.5” SBC**
- Intel® Celeron® Processor 4305UE. Single Socket FCBGA-1528 supported, CPU TDP support up to 15W TDP
- 1 HDMI and 1 Display Port, 4 USB 3.1 Gen2, 4 COM (RS-232/422/485), 8-bit configurable GPIO via DB9
- 2 Gigabit Ethernet Ports
- 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
- 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots
- Single LAN with Intel® Ethernet Controller I210IT
- Single LAN with Intel® PHY I219LM LAN controller
- +12-24VDC wide range power input
- 0°C – 50°C Operating Temperature

**Motherboard Solutions**

**X11SWN-H/-E/-L/-C (with Heatsink)**
- 8th Gen Intel® Core™ i7-8665UE/i5-8365UE/i3-8145UE/Celeron® 4305UE
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots
- Dual LAN with Intel® Ethernet Controller I210IT & Intel® PHY I219LM LAN controller
- 3 independent displays, Dual channel 48-bit LVDS, HDMI 1.4, DP++
- M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder for LTE/5G
- M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2) for WIFI/BT
- M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen3 x 1), for SATA/NVMe SSD
- 4 USB 3.1 Gen2 ports (4 rear, Type A), 4 USB 2.0 ports (4 header),
- 6 COM (2 RS-232/422/485, 4 RS-232)
- 1 Audio (Line-out/Mic-in), 1 B-bit GPIO header
- TPM 2.0 onboard
- +12-24V wide range power input
- 0°C – 60°C Operating Temperature

**X11SWN-H/-E/-L/-C-WOHS (without Heatsink)**
- 8th Gen Intel® Core™ i7-8665UE/i5-8365UE/i3-8145UE/Celeron® 4305UE
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots
- Dual LAN with Intel® Ethernet Controller I210IT & Intel® PHY I219LM LAN controller
- 3 independent displays, Dual channel 48-bit LVDS, HDMI 1.4, DP++
- M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder for LTE/5G
- M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2) for WIFI/BT
- M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen3 x 1), for SATA/NVMe SSD
- 4 USB 3.1 Gen2 ports (4 rear, Type A), 4 USB 2.0 ports (4 header),
- 6 COM (2 RS-232/422/485, 4 RS-232)
- 1 Audio (Line-out/Mic-in), 1 B-bit GPIO header
- TPM 2.0 onboard
- +12-24V wide range power input
- 0°C – 70°C Operating Temperature

* Microsoft Azure Certified. Please see page 44 for complete list.
X10 Intel® Xeon® E5-2600 v4/v3 Processors

Dual Processor System Solutions (Broadwell)

Broadwell Support

All X10 Dual Processor motherboards now support Intel’s latest E5-2600 v4 series (Broadwell) processor for even faster performance. Coupled with the long-life C612 PCH that provides up to 7 years of extended availability, the E5-2600 v4 processor brings unparalleled performance, efficiency, scalability, and flexibility to handle the most demanding embedded and embedded cloud workloads for years to come.

NVMe Capability

Many X10 models now support U.2 (NVMe) storage capabilities for unmatched performance (throughput and latency), true hot-swap capability, and cost-effectiveness that is better than using traditional add-on card based flash storage solutions.

System Solutions

SYS-6018R-MD Compact • 16.9"

- Short-Depth Chassis for X11/X10 DP Solutions
- 500W Platinum Level High-efficiency Power Supply
- 1x 3.5" or 4x 2.5" HDD
- 4x 40x56mm PWM fans
- 2 Full-Height I/O Expansion slot

Motherboard Solutions

X10DRD-i(N)T 22 cores | 145W

- Dual E5-2600 v4/v3 CPUs up to 145W
- 8 DIMM DDR4 2133MHz (Up to 1TB)
- 10 SATA 3.0 HDD/SSD ports
- 4 PCI-E 3.0 x16 + 3 PCI-E 3.0 x8 + 1 PCI-E 3.0 x4 in x8 + 1 PCI-E 2.0 x4 in x8
- 7 USB 3.0, 2 SuperDOM, TPM support
- 13.05” x 10.5” ATX Form Factor
- 10 SATA3 HDD/SSD ports, Optional dual NVMe Ports (-N Option)
### MODEL | SYS-220HE-FTNRD | SYS-220HE-FTNR
--- | --- | ---
Processor Support | 3rd Gen Intel® Xeon® Scalable processors | 3rd Gen Intel® Xeon® Scalable processors
Dual Socket LGA-4189 (Socket P+) supported | Dual Socket LGA-4189 (Socket P+) supported
TDP up to 270W; 3 UPI up to 11.2GT/s | TDP up to 270W; 3 UPI up to 11.2GT/s
Key Applications | - Cloud Computing | - Cloud Computing
- Network Function Virtualization | - Network Function Virtualization
- AI Inference and Machine Learning | - AI Inference and Machine Learning
- Telecom Micro Data Center | - Telecom Micro Data Center
- 5G Core and Edge | - 5G Core and Edge
Outstanding Features | - NEBS level 3 certified for telecommunication | - NEBS level 3 certified for telecommunication
- Front I/O, tool-less design | - Front I/O, tool-less design
Serverboard | SUPER® X12DHM-6 | SUPER® X12DHM-6
Chipset | Intel® C621A | Intel® C621A
System Memory (Max.) | 32 DIMM slots | 32 DIMM slots
Up to 8TB ECC RDIMM, DDR4-3200MHz | Up to 8TB ECC RDIMM, DDR4-3200MHz
Up to 8TB Intel® DCPMM, DDR4-3200MHz | Up to 8TB Intel® DCPMM, DDR4-3200MHz
Up to 8TB ECC RDIMM, DDR4-3200MHz | Up to 8TB ECC RDIMM, DDR4-3200MHz
Expansion Slots | 3 PCI-E 4.0 x16 DW FHFL or 6 x8 SW FHFL slot(s) | 3 PCI-E 4.0 x16 DW FHFL or 6 x8 SW FHFL slot(s)
1 PCI-E 4.0 x16 SW FHHL or 2 x8 SW FHHL slot(s) | 1 PCI-E 4.0 x16 SW FHHL or 2 x8 SW FHHL slot(s)
Onboard Storage Controller | Intel® SATA | Intel® SATA
Connectivity | 1x 1Gb port(s) with Aspeed 2600 | 1x 1Gbp port(s) with Aspeed 2600
2x 25GbE SFP28 with BCM575414 (optional) | 2x 25GbE SFP28 with BCM575414 (optional)
2x 100GbE QSF28 with BCM57508 (optional) | 2x 100GbE QSF28 with BCM57508 (optional)
4x 1GbE Rj45 with Intel® X550-AT2 (optional) | 4x 1GbE Rj45 with Intel® X550-AT2 (optional)
4x 1GbE SFP+ with Intel® X710-BM2 (optional) | 4x 1GbE SFP+ with Intel® X710-BM2 (optional)
4x 10GbE Rj45/SFP with Intel® X710-TM4 (optional) | 4x 10GbE Rj45/RJ45 with Intel® X710-TM4 (optional)
4x 10GbE SFP+ with Intel® X710-BM1 (optional) | 4x 10GbE SFP+ with Intel® X710-BM1 (optional)
4x 25GbE Rj45/SFP28 with CX-4 Lx EN Intel® X550-AT2 (optional) via AIO | 4x 25GbE RJ45/SFP28 with CX-4 Lx EN Intel® X550-AT2 (optional) via AIO
VGA/Audio | 1 VGA port | 1 VGA port
Management | SuperDoctor® 5; Watch Dog; NMI; SUM; KVM with dedicated LAN; SPM; Intel® Node Manager; 55M; IPMI 2.0; Redfish API | SuperDoctor® 5; Watch Dog; NMI; SUM; KVM with dedicated LAN; SPM; Intel® Node Manager; 55M; IPMI 2.0; Redfish API
Drive Bays | 6x 2.5" hot-swap NVMe/SATA/SAS drive bays; 6x 2.5" NVMe hybrid; Optional RAID support via RAID Controller AOC | 6x 2.5" hot-swap NVMe/SATA/SAS drive bays; 6x 2.5" NVMe hybrid; Optional RAID support via RAID Controller AOC
Peripheral Bays | None | None
Power Supply | 1300W Redundant - 48v DC Power Supplies | 2000W or 1200W AC redundant Titanium Level (typical 96%)
Cooling System | 6x 6cm heavy duty fan(s) | 6x 6cm heavy duty fan(s)
Form Factor | 2U Rackmount | 2U Rackmount

![Front I/O, DC Power](For Complete System Only)

Optimized for 5G and Telco

![Front I/O, AC Power](For Complete System Only)

Optimized for 5G and Telco
### 3rd Gen Intel® Xeon® Scalable processors Supported

**NEW!**

**Front I/O, Front DC PSU**

**Front I/O, Rear DC PSU**

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**X12 5G/Edge**

*(For Complete System Only)*

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**MODEL**  |  **SYS-110P-FDWTR**  |  **SYS-110P-FRDN2T**
---|---|---
**Processor Support**  |  3rd Gen Intel® Xeon® Scalable processors  |  3rd Gen Intel® Xeon® Scalable processors  
  Single Socket LGA-4189 (Socket P+) supported, CPU up to 205W TDP  |  Single Socket LGA-4189 (Socket P+) supported, CPU up to 205W TDP  
**Key Applications**  |  - Telecom, 5G RAN DU Application  
  - Multi-Access Edge Computing (MEC)  
  - Network Function Virtualization (NFV)  
  - Artificial Intelligence (AI) on Edge, Machine Learning (ML)  |  - Multi-Access Edge Computing (MEC)  
  - Network Function Virtualization (NFV)  
  - Artificial Intelligence (AI) on Edge, Machine Learning (ML)  
**Outstanding Features**  |  - 8-DIMM, DDR4 -3200MHz, up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS)  
  - 2x PCI-E 4.0 x16 FHFL slots, 1x PCI-E 4.0 x16 low profile slot  
  - 600W DC Redundant power supplies  
  - 2x 10G Based-T LAN Ports  |  - 8-DIMM, DDR4 -3200MHz, ECC, up to 2TB RDIMM(3DS), LRDIMM(3DS)  
  - 2x PCI-E 4.0 x16 FHFL slots  
  - 600W DC Redundant power supplies  
  - 2x 10G Based-T LAN Ports  
**Serverboard**  |  SUPER® X12SPW-TF  |  SUPER® X12SPW-TF  
**Chipset**  |  Intel® C621A  |  Intel® C621A  
**System Memory (Max.)**  |  8-DIMM, DDR4 -3200MHz, Up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS)  |  8-DIMM, DDR4 -3200MHz, Up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS)  
**Expansion Slots**  |  2x PCI-E 4.0 x16 FHFL slots  
  1x PCI-E 4.0 x16 low profile slot  |  2x PCI-E 4.0 x16 FHFL slots  
**Onboard Storage Controller**  |  Intel® SATA  |  Intel® SATA  
**Connectivity**  |  2x 10G Based-T LAN Ports  |  2x 10G Based-T LAN Ports  
**VGA/Audio**  |  1x onboard VGA port  |  1x onboard VGA port  
**Management**  |  KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API  |  KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API  
**Drive Bays**  |  2x Internal 2.5” SATA drive bays  |  2x Internal 2.5” SATA drive bays  
**Peripheral Bays**  |  N/A  |  N/A  
**Power Supply**  |  600W DC Redundant power supplies  |  600W DC Redundant power supplies  
**Cooling System**  |  6x (40x40x56 mm) cooling fans  |  5x (40x40x56 mm) cooling fans  
**Form Factor**  |  1U rackmount (Front I/O)  
  Enclosure: 437 x 429 x 43mm (17.2” x 16.9” x1.7”)  |  1U rackmount (Front I/O)  
  Enclosure: 437 x 399 x 43mm (17.2” x 15.7” x1.7”)  

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Embedded/IoT Building Block Solutions - October 2021
# X12 5G/Edge

**NEW!** 3rd Gen Intel® Xeon® Scalable processors Supported

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## 2U Compact Rackmount
- **Front I/O, Rear AC Power**
- **Wall-mount, 3 PCI-E Slots**

## Key Applications
- Cloud Computing
- Network Function Virtualization
- AI Inference and Machine Learning
- 5G Core and Edge

## Outstanding Features
- Front I/O
- Ultra-Short Depth Chassis (300mm)
- Redundant 600W -48V DC Power
- Up to 4 PCI-E 4.0 I/O Slots (CPU Dependent)

## MODEL | SYS-210P-FRDN6T | SYS-110P-FRN2T | SYS-E403-12P-FN2T
---|---|---|---
**Processor Support** | 3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported TDP up to 250W; | 3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU up to 205W TDP | 3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports up to 205W

**Key Applications** | • Multi-Access Edge Computing (MEC)  
• Network Function Virtualization (NFV)  
• Artificial Intelligence (AI) on Edge, Machine Learning (ML)  
• Industrial Automation, Retail, Smart Medical Expert Systems | • Multi-Access Edge Computing (MEC)  
• Network Function Virtualization (NFV)  
• Artificial Intelligence (AI) on Edge, Machine Learning (ML)  
• Industrial Automation, Retail, Smart Medical Expert Systems | • Multi-Access Edge Computing (MEC)  
• Universal Customer Premise Equipment (uCPE)  
• Network Function Virtualization (NFV)  
• Artificial Intelligence (AI) on Edge, Machine Learning (ML)  
• Industrial Automation, Retail, Smart Medical Expert Systems

**Outstanding Features** | • Front I/O  
• 8-DIMM, DDR4 -3200MHz, ECC, up to 2TB RDIMM(3DS), LRDIMM(3DS)  
• 2x PCI-E 4.0 x16 FHFL slots  
• 800W AC Redundant power supplies  
• 2x 10G Based-T LAN Ports | • 8-DIMM, DDR4 -3200MHz, ECC, up to 2TB RDIMM(3DS), LRDIMM(3DS)  
• 2x PCI-E 4.0 x16 FHFL slots  
• 800W AC Redundant power supplies  
• 2x 10G Based-T LAN Ports | • Single Socket Intel® Xeon-SP (Ice Lake) up to 32 Cores  
• 3x PCIe 4.0 x16 slot (FHFL)  
• 2x 10 Gigabit Ethernet Ports  
• 4x USB 3.0, 2x USB 2.0  
• 4x 2.5” Internal Drive Bays

## Serverboard
- **SUPER® X12SPM-LN6TF**
- **SUPER® X12SPW-TF**
- **SUPER® X12SPW-TF**

## Chipset
- Intel® C621A
- Intel® C621A
- Intel® C621A

## System Memory (Max.)
- 8 DIMM slots
- Up to 2TB ECC RDIMM, DDR4-3200MHz
- Up to 2TB ECC RDIMM, DDR4-3200MHz
- Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots

## Expansion Slots
- 2 PCI-E 4.0 x16 FHFL slot(s)
- PCI-E 4.0 x16 FHFL in certain configurations slot(s)
- PCI-E 4.0 x16 Low Profile or 2 x8 Low Profile slot(s)
- PCI-E 4.0 x8 FHFL in certain configurations slot(s)
- 2x PCI-E 4.0 x16 FHFL slots

## Onboard Storage Controller
- Intel® SATA
- Intel® SATA
- Intel® C621A

## Connectivity
- 2x 1/10GbE and 4x 1GbE port(s)
- 2x 10G Based-T LAN Ports
- 2x 10GbE; 1x Dedicated IMPI LAN, 4 USB 3.0, 2 USB 2.0, 1x COM, 1x VGA

## VGA/Audio
- 1 VGA port
- 1x onboard VGA port
- One VGA port from ASPEED AST2600 BMC

## Management
- SuperDoctor® 5; Watch Dog; NMI; KVM with dedicated LAN; SPM; Intel® Node Manager; IPMI 2.0; Redfish API; SSM; SUM
- KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API
- Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SMM, SuperDoctor® 5, Watchdog

## Drive Bays
- 2x 2.5” hot-swap SATA drive bays;
- 2x Internal 2.5” SATA drive bays
- 4x 2.5” SATA 3.0 Internal Drive Bays

## Peripheral Bays
- None
- N/A
- N/A

## Power Supply
- 600W -48V DC Redundant Power Supplies
- 800W AC Redundant power supplies
- 600W Multi-output power supply, 80Plus Gold

## Cooling System
- 4 heavy duty fan(s)
- 5x (40x40x56 mm) cooling hot swap fans
- 3x 80x38mm PWM hot swap fans

## Form Factor
- 2U Rackmount Enclosure: 436.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”)
- Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)
- 1U rackmount (Front I/O) Enclosure: 437 x 399 x 43mm (17.2” x 15.7” x 1.7”)
- 3x 267 x 109 x 406mm (10.5” x 4.3” x 16’’)

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*Embedded/IoT Building Block Solutions - October 2021*
# X12 IoT/Embedded

**NEW!**

**Xeon® W-1200, 10th Gen. Core™ i**

## Compact 1U Embedded System

**Model:** SYS-110C-FHN4T

- **Processor Support:** Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor, LGA-1200, W480E Chipset, CPU TDP support up to 125W TDP

## Mini-1U Embedded System

**Model:** SYS-E300-12C

- **Processor Support:** Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor, LGA-1200, W480E Chipset, CPU TDP support up to 65W TDP

## Key Applications

- Edge Computing Server
- Video processing and streaming
- Software Defined WAN
- uCPE Network Appliance
- Network Security
- Security Appliance and Video Surveillance

## Outstanding Features

- Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor
- IPMI (Intelligent Platform Management Interface)
- 4 USB 3.2
- 2 DP, DVI-I, VGA, Audio
- PCIe 3.0 x16
- Intel® 10th Gen Comet Lake
- Embedded long-life
- 1U Box Edge Devices
- TPM onboard

## Serverboard

- **Model:** SUPER® X12SCZ-TLN4F
- **Chipset:** Intel® W480E chipset
- **System Memory (Max.):** Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots
- **Expansion Slots:** 1 PCI-E 3.0 x16
- **Onboard Storage Controller:** Intel® W480E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Connectivity:** 1 RJ45 dedicated IPMI, 2x RJ45 10GBase-T, 2x RJ45 GbE
- **VGA/Audio:** ASPEED AST2500 BMC, Intel® HD Graphics, ALC 888S HD Audio
- **Management:** IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog
- **Drive Bays:** 2x 2.5” hot swap HDD (SATA3)
- **Peripheral Bays:** N/A
- **Power Supply:** 200W Low Noise AC-DC power supply with PFC, Gold Certified
- **Cooling System:** 4x 40x28mm châssis fan 4-PIN PWM FAN
- **Form Factor:** 437 x 43 x 287mm (17.2” x 1.7” x 11.3”)

## SYS-E300-12C

- **Model:** SUPER® X12SCV-LVDS
- **Chipset:** Intel® W480E chipset
- **System Memory (Max.):** Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots
- **Expansion Slots:** 1 PCI-E 3.0 x16
- **Onboard Storage Controller:** Intel® W480E controller for 2 SATA3 (6 Gbps) ports; RAID 0,1
- **Connectivity:** 2x RJ45 GbE LAN
- **VGA/Audio:** Intel® HD Graphics, ALC 888S HD Audio
- **Management:** AMT, NMI, SuperDoctor® 5, vPro, Watchdog
- **Drive Bays:** 2x 2.5” fixed drive bay with bracket (when AOC area is not occupied) Or 1x 2.5” fixed drive bay with AOC support
- **Peripheral Bays:** N/A
- **Power Supply:** 180W DC Power Adapter
- **Cooling System:** 2 x 4028 mm 4 PIN PWM FAN
- **Form Factor:** 254 x 43 x 226mm (10” x 1.7” x 8.9”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019P-FHN2T</th>
<th>SYS-E403-9P-FN2T</th>
<th>SYS-1019P-FRDN2T</th>
<th>SYS-1019P-FRN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Generation Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake Refresh).</td>
<td>2nd Generation Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake Refresh).</td>
<td>2nd Generation Intel® Xeon® Scalable Processors (Cascade Lake-SP), Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP.</td>
<td>2nd Generation Intel® Xeon® Scalable Processors (Cascade Lake-SP), Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP.</td>
<td></td>
</tr>
<tr>
<td>Processor Support</td>
<td>• Multi-Access Edge Computing (MEC) • Centralized/Cloud Radio Access Network (C-RAN) • Universal Customer Premise Equipment (uCPE), Advanced Network Security • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML) • Retail, Smart Medical Expert Systems</td>
<td>• Multi-Access Edge Computing (MEC) • Centralized/Cloud Radio Access Network (C-RAN) • Universal Customer Premise Equipment (uCPE), Advanced Network Security • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML)</td>
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<td>• Multi-Access Edge Computing (MEC) • Centralized/Cloud Radio Access Network (C-RAN) • Universal Customer Premise Equipment (uCPE), Advanced Network Security • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML)</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Intel® Cascade Lake-SP Scalable Processors • 2x PCI-E 3.0 x16 FHFL • 2x 10 Gigabit Ethernet Ports • 2x USB 3.0, 2x USB 2.0 • 2x 2.5&quot; Hot Swap SATA3 Drive Bays, 2x 2.5&quot; Internal SATA3 Drive Bays (optional)</td>
<td>• Intel® Cascade Lake-SP Scalable Processors • 1x PCI-E 3.0 x16 + 2x PCI-E 3.0 x8, or 2x PCI-E 3.0 x16 (FHFL, 300mm) • 2x 10 Gigabit Ethernet Ports • 4x USB 3.0, 2x USB 2.0 • 4x 2.5&quot; Internal Drive Bays</td>
<td>• Intel® Cascade Lake-SP Scalable Processors • 2x PCI-E 3.0 x16 FHFL • 2x 10 Gigabit Ethernet Ports • 2x USB 3.0, 2x USB 2.0 • 600W DC Redundant Power Supply • 5x Hot-Swappable Fan Tray</td>
<td>• Intel® Cascade Lake-SP Scalable Processors • 2x PCI-E 3.0 x16 FHFL • 2x 10 Gigabit Ethernet Ports • 2x USB 3.0, 2x USB 2.0 • 800W AC Redundant Power Supply • 5x Hot-Swapable Fan Tray</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog • 2x 2.5&quot; Hot Swap SATA3 Drive Bays, 2x 2.5&quot; Internal SATA3 Drive Bays (optional)</td>
<td>• Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>• Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
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</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X11SPW-TF</td>
<td>SUPER® X11SPW-TF</td>
<td>SUPER® X11SPW-TF</td>
<td>SUPER® X11SPW-TF</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C622 chipset</td>
<td>Intel® C622 chipset</td>
<td>Intel® C622 chipset</td>
<td>Intel® C622 chipset</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, up to 1.5TB 3DS ECC, LRDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, up to 1.5TB 3DS ECC, LRDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, up to 1.5TB 3DS ECC, LRDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, up to 1.5TB 3DS ECC, LRDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2x PCI-E 3.0 x16 FHFL</td>
<td>1x PCI-E 3.0 x16 + 2x PCI-E 3.0 x8, or 2x PCI-E 3.0 x16 (FHFL, 300mm)</td>
<td>2x PCI-E 3.0 x16 (FHFL)</td>
<td>2x PCI-E 3.0 x16 (FHFL)</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® C622 controller; RAID 0,1,5,10</td>
<td>Intel® C622 controller; RAID 0,1,5,10</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 10GBe, 1x Dedicated IPMI LAN, 2x USB 3.0, 2x USB 2.0, 1x COM, 1x VGA</td>
<td>2x 10GBe, 1x Dedicated IPMI LAN, 4 USB 3.0, 2 USB 2.0, 1x COM, 1x VGA</td>
<td>2x 10GBe, 1x Dedicated IPMI LAN, 2x USB 3.0, 2 USB 2.0, 1x COM, 1x VGA</td>
<td>2x 10GBe, 1x Dedicated IPMI LAN, 2x USB 3.0, 2 USB 2.0, 1x COM, 1x VGA</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>Aspeed AST2500 BMC</td>
<td>Aspeed AST2500 BMC</td>
<td>Aspeed AST2500 BMC</td>
<td>Aspeed AST2500 BMC</td>
</tr>
<tr>
<td>Management</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>4x 2.5&quot; SATA 3.0 Internal Drive Bays</td>
<td>2x Fixed 2.5&quot; Drive Bays</td>
<td>2x Fixed 2.5&quot; Drive Bays</td>
<td>2x Fixed 2.5&quot; Drive Bays</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>1U 500W multi-output Platinum Level power supply w/ PBus</td>
<td>600W multi-output Gold Level power supply</td>
<td>600W DC Redundant Power Supplies</td>
<td>800W AC Redundant Power Supplies</td>
</tr>
<tr>
<td>Cooling System</td>
<td>6x 40x28mm PWM fans</td>
<td>3x 80x38mm PWM hot swap fans</td>
<td>5x 40x56 Hot-Swappable Fan Tray</td>
<td>5x 40x56 Hot-Swappable Fan Tray</td>
</tr>
<tr>
<td>Form Factor</td>
<td>437 x 43 x 381mm (17.2&quot; x 1.7&quot; x 15&quot;)</td>
<td>267 x 109 x 406mm (10.5&quot; x 4.3&quot; x 16&quot;)</td>
<td>437 x 43 x 399mm (17.2&quot; x 1.7&quot; x 15.7&quot;)</td>
<td>437 x 43 x 399mm (17.2&quot; x 1.7&quot; x 15.7&quot;)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
### MODEL  SYS-5019D-RN8TP  SYS-110A-24C-RN10SP  SYS-110A-16C-RN10SP

#### Processor Support
- Intel® Skylake Xeon® D-2146NT SoC, 2.3GHz, 8 Core, 80W
  - BIOS version 2.0 or above is required
- Intel® Atom® Processor, Socket FCBGA-2106 supported, CPU TDP support 83W TDP
- Intel® Atom® Processor, Socket FCBGA-2106 supported, CPU TDP support 71W TDP

#### Key Applications
- Network Security Appliance
- SDN-WAN, vCPE controller box
- NFV Edge Computing Server
- Virtualization Server
- IoT Edge Computing
- Embedded IoT Computing
- Software Defined WAN (SD-WAN), Network Function Virtualization (NFV)
- Hyper Converged Infrastructure
- Network Security Appliance

#### Outstanding Features
- Built in Intel® QAT up to 40Gbps Crypto/Compression
- Supports up to 8C high Density SKL-D SoC for Retail MEC
- 4 DDR4 DIMMs(ECC LRDIMM or ECC RDIMM) with up to 2133 MHz, Max memory capacity up to 512GB on LRDIMM
- 8 LAN ports support(2x 10G SFP+, 2x 10G Based-T, 4x 1GbE)
- Built in Intel® QAT up to 40Gbps Crypto/Compression
- Supports up to 8C high Density SKL-D SoC for Retail MEC
- 4 DDR4 DIMMs(ECC LRDIMM or ECC RDIMM) with up to 2133 MHz, Max memory capacity up to 512GB on LRDIMM
- 8 LAN ports support(2x 10G SFP+, 2x 10G Based-T, 4x 1GbE)
- Cost Effective 1U Short-Depth Chassis and 2x 2.5" hot swap drive bays
- Cost Effective 1U Short-Depth Chassis and 2x 2.5" hot swap drive bays

#### Serverboard
- SUPER® X11SDV-8C-TP8F
- SUPER® A35SV-24C-SPLN10F
- SUPER® A35SV-16C-SPLN10F

#### Chipset
- System On Chip
- System On Chip
- System On Chip

#### System Memory (Max.)
- 4x DDR4 DIMM 512 GB up to 2667MHz LRDIMM or 256GB RDIMM, ECC
- DDR4 up to 2933MT/s up to 256GB RDIMM, up to 64GB for ECC/Non-ECC UDIMM
- DDR4 up to 2933MT/s up to 256GB RDIMM, up to 64GB for ECC/Non-ECC UDIMM

#### Expansion Slots
- 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/WAN card, 1 Mini-PCI-E with mSATA Support, 1 PCI-E 3.0x8 slots
- 1 PCI-E 3.0x8, M-Key M.2: 2280/42, B-Key M.2 2280/3042, E-Key M.2 2230
- 1 PCI-E 3.0x8, M-Key M.2: 2280/42, B-Key M.2 2280/3042, E-Key M.2 2230

#### Onboard Storage Controller
- SoC controller for 4 SATA3 (6 Gbps) ports
- SoC controller for 6 ports
- SoC controller for 6 ports

#### Connectivity
- 2x 10G SFP+, 2x 10G Based-T, 4x 1GbE, 1x dedicated IPMI LAN, 2 USB 3.0
- 8 x1GbE and 2x 25GbE SFP28 LANs, 1x dedicated IPMI LAN, 2x USB 3.0
- 8 x1GbE and 2x 25GbE SFP28 LANs, 1x dedicated IPMI LAN, 2x USB 3.0

#### VGA/Audio
- VGA via BMC
- Aspeed AST2500 BMC
- Aspeed AST2500 BMC

#### Management
- IPMI 2.0
- Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor® 5, Watchdog
- Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor® 5, Watchdog

#### Drive Bays
- 2x hot-swap 2.5" drive trays
- 2x hot-swap 2.5" drive trays
- 2x hot-swap 2.5" drive trays

#### Peripheral Bays
- N/A
- N/A
- N/A

#### Power Supply
- 300W AC Redundant power supplies
- 300W AC Redundant power supplies
- 300W AC Redundant power supplies

#### Cooling System
- 2x40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM)
- 3x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM)
- 3x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM)

#### Form Factor
- 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)
- 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)
- 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)

* Please check with your Supermicro sales representative and website for compatibility and configuration details
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019C-HTN2</th>
<th>SYS-1019C-FHTN8</th>
<th>SYS-5019C-MHN2</th>
<th>SYS-5019D-4C-FN8TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® 8th/9th Generation Core™</td>
<td>Intel® 8th/9th Generation Core™</td>
<td>Intel® 8th/9th Generation Core™</td>
<td>Intel® Xeon® D-2123IT, 4 Cores, 60W</td>
</tr>
<tr>
<td></td>
<td>i9/Core™-17/Core™-15/Core™-13/Pentium™/Celeron™</td>
<td>i9/Core™-17/Core™-15/Core™-13/Pentium™/Celeron™</td>
<td>i9/Core™-17/Core™-15/Core™-13/Pentium™/Celeron™</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Xeon® E-2100 series and E-2200 series Processor. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP, A graphic integrated CPU is required to have onboard video from the DVI and DP ports.</td>
<td>Xeon® E-2100/2200 processor. Socket LGA 1151 supported, CPU TDP support up to 80W TDP</td>
<td>Xeon® E-2100/2200 processor. Socket LGA 1151 supported, CPU TDP support up to 80W TDP</td>
<td>A graphic integrated CPU is required to have onboard video from the DVI and DP ports.</td>
</tr>
</tbody>
</table>

### Key Applications

- Digital Signage
- DVR/NVR
- POS
- Office Server
- Network Security
- Security Appliance and Video Surveillance
- uCPE Network Appliance
- Network Security Appliance
- Virtualization Server
- General purpose, SMB, Web Hosting
- Application and data serving
- Archiving, Mail/Finance, Security
- Network Security Appliance
- SDN-WAN, vCPE controller box
- NFV Edge Computing Server
- Virtualization Server
- IoT Edge Computing

### Outstanding Features

- 8x 2.5" Hot Swap SATA3 Drive Bay
- M.2 (M key), Onboard TPM, Intel® SoC, 4 Cores, 8 Thread
- Intel® Xeon® D-2123IT, 4 Cores, 60W
- 8 LAN ports support (2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE)
- 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/WAN card, 1 Mini-PCI-E with mSATA Support

### Serverboard

- SUPER® X11SCZ-F
- SUPER® X11SCM-LN8F
- SUPER® X11SCZ-F
- SUPER® X11SDV-4C-TP8F

### Chipset

- Intel® C246 chipset
- Intel® C246 chipset
- Intel® C246 chipset
- System On Chip

### System Memory

- Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- Up to 128GB ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- Up to 128GB ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- 4 x DDR4 DIMM 512 GB up to 2667MHz RDIMM or 256GB RDIMM, ECC/non-ECC

### Expansion Slots

- PCI-E 3.0 x 16 half full height half length expansion slot; M.2 (M key, 22110/80, PCI-E 3.0 x8/SATA)
- PCI-E 3.0 x 16 full height full length expansion slot (limited to two drives populated);
- 1 PCI-E 3.0 x16
- 1 PCI-E 3.0 x16
- 1 PCI-E 3.0 x16
- 1 PCI-E 3.0 x16

### Onboard Storage Controller

- Intel® C264 controller for 2 SATA3 (6 Gbps) ports; RAID 0, 1; Intel® C246 controller for 6 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10; Intel® C246 controller for 5 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10; Intel® C246 controller for 4 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10;

### Connectivity

- Dual GbE LAN, 1 dedicated IPMI, 4 USB3.1 (3 TYPE A and 1 TYPE C)
- 8x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB3.1, 2 USB2.0
- Dual LAN with Intel® Ethernet Controller I210-AT
- 2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0

### VGA/Audio

- VGA via BMC
- VGA via BMC
- VGA via BMC
- Aspeed AST2500 BMC, Intel® HD Graphics
- VGA via BMC

### Management

- IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog
- Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog
- IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog
- IPMI 2.0

### Drive Bays

- 2x 2.5" hot swap HDD (SATA3)
- 2x 2.5" Hot Swap. 2x 2.5" Internal (SSD recommended) SATA3 drive bays
- 2x 3.5" hot-swap SAS/SATA
- 4x 3.5" or 4x 2.5"

### Peripheral Bays

- N/A
- 1x Slim DVD-ROM Drive
- N/A
- 1x Slim DVD-ROM Drive

### Power Supply

- 200W Low Noise AC-DC power supply with PFC, Gold Certified
- 350W AC-DC multiple output Platinum Level power supply
- 350W AC-DC multiple output Platinum Level power supply
- 350W AC-DC multiple output Platinum Level power supply

### Cooling System

- 4x 40x28mm chassi fan 4-PIN PWM FAN
- 4x 40x28mm PWM fan
- 5x 40x28mm PWM fan, 3x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM)
- 5x 40x28mm PWM fan

### Form Factor

- 437 x 43 x 287mm (17.2" x 1.7" x 11.3")
- 437 x 43 x 381mm (17.2" x 1.7" x 15")
- 437 x 43 x 483mm (17.2" x 1.7" x 19.8")
- 437 x 43 x 249mm (17.2" x 1.7" x 9.8")

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
### Outdoor Edge

**Embedded Weatherproof Intel® Xeon® D Server**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E403-9D-16C-IPD2</th>
<th>SYS-E403-9D-14CN-IPD2</th>
<th>SYS-E403-9D-16C-IP</th>
<th>SYS-E403-9P-16C-IP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>Intel® Xeon® D-2177NT Processor, 14 Cores, 28 Threads, 1.9 GHz, 105W</td>
<td>Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>- 5G Radio Access Network (RAN)</td>
<td>- Multi-Access Edge Computing (MEC)</td>
<td>- Multi-Access Edge Computing (MEC)</td>
<td>- Multi-Access Edge Computing (MEC)</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>- IP65 enclosure for harsh outdoor environments</td>
<td>- GR-3108-CORE / GR-487-CORE compliant</td>
<td>- Operating Temperature -40°C ~ 50°C (-40°F ~ 114.8°F)</td>
<td>- Operating Temperature -40°C ~ 50°C (-40°F ~ 114.8°F)</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X11SDW-16C-IPD2</td>
<td>SUPER® X11SDW-14CN-IPD2</td>
<td>X11SDW-16C-IP</td>
<td>SUPER® X11SDW-16C-IPD2</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz in 4 DIMM slots</td>
<td>Dual x16 or Dual x8, One x16 PCl-E3.0 full height 3/4 length expansion slot</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>Dual x16 or Dual x8, One x16 PCl-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCl-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCl-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCl-E3.0 full height 3/4 length expansion slot</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>4x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0</td>
<td>4x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0</td>
<td>2x 10GBe, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0</td>
<td>2x 10GBe, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>VEGA via BMC</td>
<td>VEGA via BMC</td>
<td>VEGA via BMC</td>
<td>VEGA via BMC</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Intel® Node Manager, IPMI (Intellectual Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intellectual Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intellectual Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intellectual Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Design Capacity: -40Vdc to -59Vdc, 900W</td>
<td>Design Capacity: -44Vdc to -59Vdc, 900W</td>
<td>600W 100-240 VAC, Multi-output power supply w/ PMBus, 80Plus Gold</td>
<td>1200W 100-240 VAC, Multi-output power supply w/ PMBus, 80Plus Gold</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>3x 80x80mm PWM redundant fans (Server), 6x 80x38mm IP68 Fans (Cabinet)</td>
<td>3x 80x80mm PWM redundant fans (Server), 6x 80x38mm IP68 Fans (Cabinet)</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>319 x 281 x 258mm (12.56” x 32.31” x 10.16”)</td>
<td>319 x 258mm (12.56” x 32.31” x 10.16”)</td>
<td>516 x 650 x 450mm (20.3” x 25.6” x 17.7”)</td>
<td>516 x 650 x 450mm (20.3” x 25.6” x 17.7”)</td>
</tr>
</tbody>
</table>
## IoT/Embedded

### Intel® Xeon® D-2146NT SoC, 8 Cores System

- **Processor Support**: Intel® Xeon® D-2146NT, 8 Cores, 80W
- **BIOS version**: 2.0 or above is required
- **Key Applications**: Network Security Appliance, SDN-WAN, vCPE controller box
- **Outstanding Features**: 8 LAN ports support, 2 x 10G SFP+, 2 x 10GBase-T, 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/ WAN card, 1 Mini-PCI-E with mSATA Support
- **Serverboard**: SUPER® X11SDV-8C-TP8F

### Intel® Atom® C3850, SoC, 12 Cores, Rear I/O Short-Depth System

- **Processor Support**: Intel® Atom™ C3850, SoC, 12 Cores, 25W
- **Key Applications**: Virtual Router, Firewall Applications, Virtualization
- **Outstanding Features**: Short Depth, Low Power
- **Serverboard**: SUPER® A2SDi-LN4F

### Intel® Atom® C3758, SoC, 8 Cores, Front I/O Short-Depth System

- **Processor Support**: Intel® Atom™ C3758, SoC, 8 Cores, 25W
- **Key Applications**: Network Security Appliance, Edge Computing Server, Virtualization Server
- **Outstanding Features**: Short Depth, Low Power, Low Cost Applications
- **Serverboard**: SUPER® A2SDi-8C-HLN4F

### AMD EPYC 3200 Series 8C 1U Edge Platform

- **Processor Support**: AMD EPYC™ 3251 Processor
- **Key Applications**: Network Security Appliance, Edge Computing Server, Virtualization
- **Outstanding Features**: AMD Embedded EPYC™ 3251 SoC Processor, 8 Core/16 Thread, 1M2-M key for NVMc, 2242/80, 1 PCIe3.0 x16 expansion for AOC, Up to 2x3.5” or 4x2.5” SATA3 device, Dedicated management port
- **Serverboard**: SUPER® M115DV-8C-LN4F

### Table

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5019D-FN8TP</th>
<th>SYS-5019A-12TN4</th>
<th>SYS-5019A-FTN4</th>
<th>AS-5019D-FTN4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Xeon® D-2146NT SoC, 2.3GHz, 8 Core, 80W</td>
<td>Intel® Atom™ C3850, SoC, 12 Cores, 25W</td>
<td>Intel® Atom™ C3758, SoC, 8 Cores, 25W</td>
<td>AMD EPYC™ 3251 Processor</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>8 LAN ports support (2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE), 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/ WAN card, 1 Mini-PCI-E with mSATA Support</td>
<td>Short Depth, Low Power</td>
<td>Intel® QAT up to 20Gbps crypto + 20Gbps compression, Intel® Quick Assist Technology, 256GB DDR4 ECC RDIMM/64GB ECC UDIMM</td>
<td>AMD Embedded EPYC™ 3251 SoC Processor, 8 Core/16 Thread, 1 M.2 M-key for NVMc, 2242/80, 1 PCIe3.0 x16 expansion for AOC, Up to 2x3.5” or 4x2.5” SATA3 device, Dedicated management port</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X11SDV-8C-TP8F</td>
<td>SUPER® A2SDi-LN4F</td>
<td>SUPER® A2SDi-8C-HLN4F</td>
<td>SUPER® M115DV-8C-LN4F</td>
</tr>
</tbody>
</table>

### Additional Information

- **System On Chip**: System on Chip
- **System Memory (Max.)**: 4x DDR4 DIMM 512 GB up to 2667MHz DDR4-2400MHz or 256GB RDIMM, ECC
- **Expansion Slots**: 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/ WAN card, 1 Mini-PCI-E with mSATA supports (half card only), 1 M.2IM Key for SSD 2242/80, PCIe-E/SATA3.0, 1 PCI-E 3.0 x4, 1 x M.2 (M key for SSD, 2242/80, PCI-E3.0 x2 or SATA3) 1 PCI-E 3.0 x16
- **Onboard Storage Controller**: SoC controller for 4 SATA3 (6 Gbps) ports
- **Connectivity**: 2 x 10G SFP+, 2 x 10GBE LAN, 4x 1GBE LAN, 1x dedicated IPMI LAN, 2 USB 3.0
- **VGA/Audio**: VGA via BMC, 1x Dedicated IPMI 2 USB 3.0, 1x VGA & Onboard TPM Header
- **Management**: IPMI 2.0, 1x Dedicated IPMI 1x VGA & Onboard TPM Header
- **Drive Bays**: 1x 3.5” or 4x 2.5” HDD, Up to 2x 3.5” or 4x 2.5” SATA3 device2.5”
- **Peripheral Bays**: N/A, N/A
- **Power Supply**: 200W Low Noise AC-DC power supply with PFC, 200W Low Noise AC-DC power supply with PFC, 200W Low Noise AC-DC power supply with PFC, 200W compact power supply
- **Cooling System**: 3x 40x28mm 4-PIN PWM Fan (FAN-0065L1, 13K RPM), 2x 40x28mm 4-PIN PWM Fan (FAN-0065L1, 13K RPM), Optional 1x 40x28mm 4-PIN PWM Fan, Active CPU fan, 40mm chassis fan
- **Form Factor**: 437 x 43 x 249mm (17.2” x 1.7” x 9.8”), 437 x 43 x 249mm (17.2” x 1.7” x 9.8”), 437 x 43 x 249mm (17.2” x 1.7” x 9.8”), 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
## IoT/Embedded

**Intel® Atom™ Processor Denverton C3958, SoC, 16 Cores, 31W**
Front I/O, Short-Depth Server

**Intel® Denverton C3758**
support QAT

**Intel® Gen 8th Coffee Lake-S**
Compact 1U Embedded System

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5019A-FN5T</th>
<th>SYS-5019A-FTN10P</th>
<th>SYS-5018A-LTN4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Atom™ Processor Denverton C3958, SoC, 16 Cores, 31W</td>
<td>Intel® Atom™ Processor Denverton C3758, SoC, 8 Cores</td>
<td>Intel® Atom™ Processor C2358, Single Socket FCBGA1283 supported, CPU TDP support up to 7W TDP</td>
</tr>
</tbody>
</table>
| **Key Applications** | • Network Security Appliance  
• Edge Computing Server  
• Virtualization Server | • Edge Computing Server  
• Virtualization Server  
• Network Security Appliance | • Network Security Appliance  
• FireWall Applications  
• Virtual Router |
| **Outstanding Features** | • Intel® Quick Assist Technology  
• 256GB DDR4 ECC RDIMM/64GB ECC UDIMM | • Intel® Quick Assist Technology (QAT)  
• Intel® Single-Root I/O Virtualization (SR-IOV) | • Embedded-long-life to 2020  
• DDR3 up to 1333MHz up to 16 GB ECC SODIMM  
• Compact form factor less than 10" depth  
• Low Power |
| **Serverboard** | SUPER®* A25DV-16C-TLN5F | SUPER®* A25DV-8C-LN10PF | SUPER®* A15RI-2358F |
| **Chipset** | System on Chip | System on Chip chipset | System on Chip |
| **System Memory (Max.)** | Up to 256GB Registered ECC DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; in 4 DIMM slots | Up to 256GB Registered ECC RDIMM, DDR4-2400MHz  
Or 64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots | Up to 16GB Unbuffered ECC SO-DIMM, DDR3-1333MHz, in 2 DIMM slots |
| **Expansion Slots** | 1 PCI-E 3.0 x8, 1 x M.2 (M key for SSD, 2242/80, PCI-E3.0 x2 or SATA3), 1 B-Key (3042/2280 PCI-E 3.0 x2/SATA/USB) | 1 PCI-E 3.0 x4 | 1 PCI-E 2.0 x8 |
| **Onboard Storage Controller** | SoC controller for 2 SATA3 (6 Gbps) ports | SoC controller for 5 SATA3 (6 Gbps) ports; RAID | SoC controller for 2 SATA2 (3 Gbps) ports; RAID 2SATA3 (6 Gbps) |
| **Connectivity** | 4x 10GbE LAN, 1x 1GbE LAN port (IPMI shared LAN), 4 USB 3.0 | 8x RJ45 GbE LAN, 2x SFP GbE LAN, 1 dedicated IPMI RJ45 GbE LAN, 2x USB 3.0, 1 VGA | 4x 1GbE LAN, 1 dedicated IPMI LAN, 2x USB 3.0, 1x VGA |
| **VGA/Audio** | VGA via BMC | Aspeed AST2400 BMC | Aspeed AST2400 BMC |
| **Management** | IPMI 2.0 | IPMI2.0, NMI, SuperDoctor® 5, Watchdog | IPMI2.0, NMI, SuperDoctor® 5, Watchdog |
| **Drive Bays** | 1x 3.5" or 2x 2.5" HDD Internal drive bays | 1x 3.5" or 4x 2.5" Internal drive bays | 1x 3.5" or 4x 2.5" Internal drive bays |
| **Peripheral Bays** | N/A | N/A | N/A |
| **Power Supply** | 200W Low Noise AC-DC power supply with PFC | 1U 200W Multi-output power supply Gold level w/20pin | 1U 200W Multi-output power supply Gold level w/20pin |
| **Cooling System** | 3x 40x28mm 4-PIN PWM Fan (FAN-006SL4, 13K RPM) | 3x 40x28mm 4-PIN PWM Fan (FAN-006SL4, 13K RPM) | 2x 40x28mm 4-PIN PWM Fan (FAN-006SL4, 13K RPM) |
| **Form Factor** | 437 x 43 x 249mm (17.2” x 1.7” x 9.8”) | 437 x 43 x 249mm (17.2” x 1.7” x 9.8”) | 437 x 43 x 249mm (17.2” x 1.7” x 9.8”) |

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
## Embedded/IoT Building Block Solutions - October 2021

### Intel® Xeon® D Compact Front Access
1U 2-Slot System

#### Intel® Xeon® D-2146NT
SoC 8 Core, 1U System

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019D-FHN13TP</th>
<th>SYS-1019D-4C-FHN13TP</th>
<th>SYS-1019D-14CN-FHN13TP</th>
<th>SYS-1019D-16C-FHN13TP</th>
<th>SYS-1019D-FRN8TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® D-2146NT, 8 Cores, 16 Threads, 2.3 GHz, 80W</td>
<td>Intel® D-2123JT, 4 Cores, 8 Threads, 2.2 GHz, 60W</td>
<td>Intel® D-2177NT, 14 Cores, 28 Threads, 1.9 GHz, 105W</td>
<td>Intel® D-2183IT, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>Intel® 2nd Gen Xeon® D-2146NT, 8 Core/16 Thread with built in QAT</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Multi-Access Edge Computing (MEC)</td>
<td>• Centralized/Cloud Radio Access Network (C-RAN)</td>
<td>• Universal Customer Premise Equipment (uCPE)</td>
<td>• Software Defined WAN (SD-WAN)</td>
<td>• Network Security Appliance</td>
</tr>
<tr>
<td></td>
<td>• Network Function Virtualization (NFV)</td>
<td>• Artificial Intelligence (AI)</td>
<td></td>
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<td>• FireWall Applications</td>
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<td></td>
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<td>• Virtualization</td>
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<td></td>
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<td></td>
<td>• SD-WAN and vCPE/ucPE</td>
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<td></td>
<td>• vCP</td>
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<td></td>
<td></td>
<td></td>
<td>• 4x 2.5&quot; HDD</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Dual PCI-E 3.0 x16 FHFL</td>
<td>• 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45</td>
<td>• 1x M.2 M-Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key</td>
<td></td>
<td>• 400W Redundant Platinum PSU</td>
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<td></td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X11SDW-8C-TP13F</td>
<td>SUPER® X11SDW-16C-TP13F</td>
<td>SUPER® X11SDW-14CNT-TP13F</td>
<td>SUPER® X11SDW-16C-TP13F</td>
<td>SUPER® X11SDV-8C-TP8F</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip (SoC)</td>
<td>SoC chipset</td>
<td>DDR4-2133MHz; up to 512GB LRDIMM LRDIMM</td>
<td>DDR4-2133MHz; up to 512GB LRDIMM</td>
<td>DDR4-2133MHz; up to 512GB LRDIMM</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM LRDIMM, in 4 DIMM slots</td>
<td>DDR4-2133MHz; up to 512GB LRDIMM</td>
<td>DDR4-2666 512 LRDIMM or 256 Registered ECC RDIMM in 4 DIMM slots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>Dual PCI-E 3.0 x 16 full height full length expansion slot</td>
<td>1 PCI-E 3.0 x16, 1 M.2 M-Key for storage with 2242/2280, 1 M.2 B-Key for SSD &amp; WAN with 2242, 1 Mini PCI-E x1</td>
<td>1 PCI-E 3.0 x16, 1 M.2 M-Key for storage with 2242/2280, 1 M.2 B-Key for SSD &amp; WAN with 2242, 1 Mini PCI-E x1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports</td>
<td>SoC with 12 SATA3 for RAID 0,1,5,10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0</td>
<td>4x 1GbE, 2x 10Gbase-T, 2x 10G SFP+, 1 dedicate IPMI LAN, 2x USB3.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>IPMI 2.0</td>
<td>IPMI 2.0 (RJ45) with dedicated LAN port and KVM via BMC VGA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x External Hot-swap 2.5&quot; Drive Bays, 2x Internal 2.5&quot; Drive Bays</td>
<td>4x 2.5&quot; Internal Fixed HDD bracket</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>1019D-FHN13TP / -4C: 350W Multi-output Platinum Level power supply; -14CN / -16C: 500W Multi-output Platinum Level power supply</td>
<td>Redundant 400W 80Plus Platinum Level power supplies;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling System</td>
<td>4 or 6 40x28mm PWM fans (up to 6)</td>
<td>4x 40x56mm cooling fan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form Factor</td>
<td>437 x 43 x 381mm (17.2&quot; x 1.7&quot; x 15&quot;)</td>
<td>437 x 43 x 429mm (17.2&quot; x 1.7&quot; x 16.9&quot;)</td>
<td></td>
<td></td>
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</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## Intel® Xeon® Processor D
Compact Front Access 1U 2-Slot, Redundant AC PSUs, and Hot Swappable Fans

### MODEL

<table>
<thead>
<tr>
<th>SYs-1019D-4C-RAN13TP+</th>
<th>SYs-1019D-14CN-RAN13TP+</th>
<th>SYs-1019D-16C-RAN13TP+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-4C: Intel® Xeon® Processor D-2123IT-br&gt;Single Socket FCBGA-2518 supported, CPU TDP support up to 60W TDP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-14CN: Intel® Xeon® Processor D-2177NT, Single Socket FCBGA-2518 supported, CPU TDP support up to 105W TDP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-16C: Intel® Xeon® Processor D-2183IT, Single Socket FCBGA-2518 supported, CPU TDP support up to 100W TDP</td>
<td></td>
<td></td>
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<tr>
<td>Key Applications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Multi-Access Edge Computing (MEC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Centralized/Cloud Radio Access Network (C-RAN)</td>
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<tr>
<td>- Universal Customer Premise Equipment (uCPE)</td>
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<tr>
<td>- Software Defined WAN (SD-WAN)</td>
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<tr>
<td>- Network Function Virtualization (NFV)</td>
<td></td>
<td></td>
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<tr>
<td>- Artificial Intelligence (AI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outstanding Features</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Intel® Xeon® Processor D-2123JT, 4 Cores, 8 Threads, 2.2 GHz, 60W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2x PCI-E 3.0 x16 FHFL</td>
<td></td>
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<tr>
<td>- 4x 10GbE SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45, 1x VGA Port</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 1x M.2 M-Key 2280/22110, 1x M.2 B-Key 2242, 1x M.2 E-Key 2200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2x 2.5” Internal Drive Bay</td>
<td></td>
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</tr>
<tr>
<td>- 800W AC Redundant PSU, 5x Hot-Swappable Fans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serverboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-4C: SUPER® X115DW-4C-TP13F+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-14CN: SUPER® X115DW-14CN-TP13F+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-16C: SUPER® X115DW-16C-TP13F+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chipset System on Chip (SoC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2x PCI-E 3.0 x16 FHFL</td>
<td></td>
<td></td>
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<tr>
<td>Onboard Storage Controller</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 SFP+, 9 GbE (one for Ethernet management), 1 dedicated IPMI LAN, 1 COM via RJ45, 2 USB 3.0, 1x VGA</td>
<td></td>
<td></td>
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<tr>
<td>VGA/Audio</td>
<td></td>
<td></td>
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<tr>
<td>VGA via Aspeed AST2500 BMC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPMI 2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive Bays</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2x 2.5” Internal Drive Bays</td>
<td></td>
<td></td>
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<tr>
<td>Peripheral Bays</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
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<tr>
<td>Power Supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>800W Redundant Power Supply 80 PLUS Platinum</td>
<td></td>
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<tr>
<td>600W DC-48V input Redundant Power Supply</td>
<td></td>
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</tr>
<tr>
<td>Cooling System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5x 40x56mm Hot Swappable Counter-Rotation PWM Fans</td>
<td></td>
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</tr>
<tr>
<td>Form Factor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>437 x 43 x 399mm (17.2” x 1.7” x 15.7”)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019D-16C-FRN5TP</th>
<th>SYS-1019D-14C-FRN5TP</th>
<th>SYS-1019D-12C-FRN5TP</th>
<th>SYS-1019D-FRN5TP</th>
<th>SYS-E300-9A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>-16C: Intel® D-2183IT, 16C/32T, 2.2GHz, 100W</td>
<td>-14C: Intel® D-2173IT, 14C/28T, 1.7GHz, 70W</td>
<td>-12C: Intel® D-2163IT, 12C/24T, 2.1GHz, 75W</td>
<td>Intel® D-2146NT, 8C/16T, 2.3GHz, 80W</td>
<td>Intel® Atom™ C3858, SoC 12 Cores, 25W, 2.0 GHz</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td></td>
<td></td>
<td></td>
<td>• Centralized/Cloud Radio Access Network (C-RAN)</td>
<td>• Embedded Networking Applications</td>
</tr>
<tr>
<td></td>
<td>• Universal Customer Premise Equipment (uCPE)</td>
<td>• Universal Customer Premise Equipment (uCPE)</td>
<td></td>
<td>• Software Defined Wide Area Network (SD-WAN)</td>
<td>• Network Security Appliance</td>
</tr>
<tr>
<td></td>
<td>• Software Defined Wide Area Network (SD-WAN)</td>
<td>• Software Defined WAN (SD-WAN)</td>
<td></td>
<td>• Network Function Virtualization (NFV)</td>
<td>• Firewall Applications</td>
</tr>
<tr>
<td></td>
<td>• Network Function Virtualization (NFV)</td>
<td></td>
<td></td>
<td>Intel® Xeon® D-2146NT Processor, 8 Cores, 16 Threads, 2.3 GHz, 80W</td>
<td>• Virtualization Server</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>4x PCI-E 3.0 x8 slots for AIOM**</td>
<td>4x PCI-E 3.0 x8 slots for AIOM**</td>
<td>4x PCI-E 3.0 x8 slots for AIOM**</td>
<td>4 PCI-E3.0 x8 slots for AIOM**</td>
<td>Dual SFP+, Dual 10GbE-T and QuadGbE</td>
</tr>
<tr>
<td></td>
<td>2x 10GbE(Ethernet Management Port, 1x COM via RJ45/micro USB)</td>
<td>2x 10GbE(Ethernet Management Port, 1x COM via RJ45/micro USB)</td>
<td>2x 10GbE(Ethernet Management Port, 1x COM via RJ45/micro USB)</td>
<td>4 PCI-E3.0 x8 slots for AIOM**</td>
<td>10 year life cycle</td>
</tr>
<tr>
<td></td>
<td>2x EDSFF</td>
<td>1x M.2 M-Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key</td>
<td>1x M.2 M-Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key</td>
<td><strong>AIOM sold separately</strong></td>
<td>IMPI 2.0 management with dedicated LAN</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>-12C: SUPER® X11SDS-12C</td>
<td>-12C: SUPER® X11SDS-12C</td>
<td>-16C: SUPER® X11SDS-16C</td>
<td>SUPER® X11SDS-8C</td>
<td>SUPER® A2SDI-TP8F</td>
</tr>
<tr>
<td></td>
<td>Chipset</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
</tr>
<tr>
<td></td>
<td>System Memory (Max.)</td>
<td>Up to 256GB Registered ECC RDIMM or 512GB RDIMM, DDR4-2133MHz; up to 512GB RDIMM, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB RDIMM, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>4 PCI-E3.0 x8 slots for AIOM**</td>
<td>4x PCI-E3.0 x8 slots for AIOM**</td>
<td><strong>AIOM sold separately</strong></td>
<td><strong>AIOM sold separately</strong></td>
<td>1x 2.5” fixed drive bay: one with bracket, one on base mount.</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 4 SATA3.0</td>
<td>SoC controller for 4 SATA3.0</td>
<td></td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 10GbE(Ethernet Management Port, 1x COM via RJ45/micro USB, 2x 3.0)</td>
<td>2x 10GbE(Ethernet Management Port, 1x COM via RJ45/micro USB, 2x 3.0)</td>
<td>2x 10GbE(Ethernet Management Port, 1x COM via RJ45/micro USB, 2x 3.0)</td>
<td>2x 10GbE SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0</td>
<td></td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td></td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SUM, SUPERDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SUM, SUPERDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SUPERDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SUPERDoctor® 5, Watchdog</td>
<td></td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x 2.5” Drive Bays (one drive space shares with M.2), 2x E1.S(35°C ambient temperature only)</td>
<td>2x 2.5” Drive Bays (one drive space shares with M.2), 2x E1.S(35°C ambient temperature only)</td>
<td><strong>AIOM sold separately</strong></td>
<td><strong>AIOM sold separately</strong></td>
<td>2x 10GbE SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>400W Redundant Power Supply, 80 PLUS Platinum</td>
<td>400W Redundant Power Supply, 80 PLUS Platinum</td>
<td>400W Redundant Power Supply, 80 PLUS Platinum</td>
<td>400W Redundant Power Supply, 80 PLUS Platinum</td>
<td>Lockable 12V DC 84W power adapter</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>5x 40x40x56 mm 13K-11K RPM Counter-rotating Fans</td>
<td>5x 40x40x56 mm 13K-11K RPM Counter-rotating Fans</td>
<td>5x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM)</td>
<td>4x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM)</td>
<td>1U Compact Box; Enclosure: 254 x 43 x 226mm (10” x 1.7” x 8.9”)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>437 x 43 x 381mm (17.2” x 1.7” x 15”)</td>
<td>437 x 43 x 381mm (17.2” x 1.7” x 15”)</td>
<td><strong>AIOM sold separately</strong></td>
<td><strong>AIOM sold separately</strong></td>
<td>321 x 276 x 142mm (12.6” x 10.7” x 5.6”)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom™ C3558, SoC 4 Cores, 16W, 2.2 GHz</td>
<td>-4C: Intel® D-2123IT, 4 Cores, 8 Threads, 2.2 GHz, 60W</td>
<td>-12C: Intel® D-2163IT, 12 Cores, 24 Threads, 2.1 GHz, 75W</td>
<td>-14C: Intel® D-2173IT, 14 Cores, 28 Threads, 1.7 GHz, 70W</td>
<td>-16C: Intel® D-2183IT, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>-8CN: Intel® D-2146NT, 8 Cores, 16 Threads, 2.3 GHz, 80W</td>
<td>-14CN: Intel® D-2177NT, 14 Cores, 28 Threads, 1.9 GHz, 105W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>Virtualization Server</td>
<td>- Virtualization Server</td>
<td>- Virtualization Server</td>
<td>- Virtualization Server</td>
<td>- Virtualization Server</td>
<td>- Virtualization Server</td>
<td>- Virtualization Server</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>*Intel® TXT, improved AES-NI, QuickAssist Technology</td>
<td>- Dual PCIe-E 3.0x16 or Dual x8, One x16 PCIe-E 3.0 (FHFL, 300mm)</td>
<td>- 2x10GbE, 2x SFP+, 9x GbE (one for one management), 1x dedicated IPMI LAN, 1x COM via RJ45</td>
<td>- 2x USB 3.0, 2x USB 2.0</td>
<td>- 1x M.2 M-Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key 2230</td>
<td>- Dual PCIe-E 3.0x16 or Dual x8, One x16 PCIe-E 3.0 (FHFL, 300mm)</td>
<td>- 2x10GbE, 2x SFP+, 9x GbE (one for one management), 1x dedicated IPMI LAN, 1x COM via RJ45</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® A2SDi-4C-HLN4F</td>
<td>-4C: SUPER® X11SDW-4C-TP13F</td>
<td>-12C: SUPER® X11SDW-12C-TP13F</td>
<td>-14C: SUPER® X11SDW-14C-TP13F</td>
<td>-16C: SUPER® X11SDW-16C-TP13F</td>
<td>-8CN: SUPER® X11SDW-8C-TP13F</td>
<td>-14CN: SUPER® X11SDW-14CNT-TP13F</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>256GB Registered ECC, DDR4-2133MHz 64GB Unbuffered ECC/non-ECC, DDR4-2133MHz in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-244MHz in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2467 MHz; in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2467 MHz; in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2467 MHz; in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2467 MHz; in 4 DIMM slots</td>
<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1x M.2 (M key, 2242/2280, PCI-E 3.0 x2 or SATA3)</td>
<td>Dual x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>Dual x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>Dual x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>Dual x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>Dual x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td></td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 4x SATA 3.0</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td>4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 2.0, 1 USB 3.0 type A</td>
<td>2x10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td>2x10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td>2x10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td>2x10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td>2x10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td></td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IMPI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IMPI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IMPI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IMPI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IMPI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1x 2.5” SSD fixed drive bay</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
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<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td></td>
</tr>
<tr>
<td>Cooling System</td>
<td>2x 40x28mm 4-PIN PWM FAN/FAN-006SLA, 13K RPM</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
<td></td>
</tr>
<tr>
<td>Form Factor</td>
<td>1U Compact Box; Enclosure: 195 x 43 x 226mm (7.68” x 1.7” x 8.9”)</td>
<td>Enclosure: 267 x 109 x 406mm (10.5” x 4.3” x 16”)</td>
<td>Enclosure: 267 x 109 x 406mm (10.5” x 4.3” x 16”)</td>
<td>Enclosure: 267 x 109 x 406mm (10.5” x 4.3” x 16”)</td>
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</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
### Intel® Xeon® D System with 3 PCIe slots

- **Model**: SYS-E403-9D-4C-FRN13+  
  SYS-E403-9D-14CN-FRN13+  
  SYS-E403-9D-16C-FRN13+

- **Processor Support**
  - 4C: Intel® Xeon® D-2123IT Processor, 4 Cores, 8 Threads, 2.2 GHz, 60W  
  - 16C: Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W

- **Key Applications**
  - Multi-Access Edge Computing (MEC)  
  - Universal Customer Premise Equipment (uCPE)

- **Outstanding Features**
  - Dual PCIe3.0 x16 or Dual x8, One x16 PCIe3.0 (FH3/4L)  
  - 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45  
  - Operating Temperature 0°C – 50°C (32°F – 122°F)

- **Serverboard**
  - 4C: SUPER® X11SDW-4C-TP13F+  
  - 16C: SUPER® X11SDW-16C-TP13F+

- **Chipset**
  - System on Chip (SoC)

- **System Memory**
  - Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots

- **Expansion Slots**
  - Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot

- **Onboard Storage Controller**
  - SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

- **Connectivity**
  - 2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0

- **VGA/Audio**
  - VGA via BMC

- **Management**
  - Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog

- **Drive Bays**
  - 4x Internal 2.5” Drive Bays

- **Peripheral Bays**
  - N/A

- **Power Supply**
  - FRDN13+: 600W DC-48V input Redundant Power Supply  
  - FRN13+: 800W Redundant Power Supply, 80 PLUS Platinum

- **Cooling System**
  - 3x 80x80mm PWM redundant fans

- **Form Factor**
  - 267 x 117 x 406mm (10.5” x 4.62” x 16”)

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### Intel® Xeon® D System with 3 PCIe slots

- **Model**: SYS-E403-9D-4C-FRDN13+  
  SYS-E403-9D-14CN-FRDN13+  
  SYS-E403-9D-16C-FRDN13+

- **Processor Support**
  - 14CN: Intel® Xeon® D-2177NT Processor, 14 Cores, 28 Threads, 1.9 GHz, 105W

- **Key Applications**
  - Universal Customer Premise Equipment (uCPE)

- **Outstanding Features**
  - Dual PCIe3.0 x16 or Dual x8, One x16 PCIe3.0 (FH3/4L)  
  - 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45  
  - Operating Temperature 0°C – 50°C (32°F – 122°F)  
  - Intel® Quick Assist Technology

- **Serverboard**
  - 14CN: SUPER® X11SDW-14CN-TP13F+

- **Chipset**
  - System on Chip (SoC)

- **System Memory**
  - Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots

- **Expansion Slots**
  - Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot

- **Onboard Storage Controller**
  - SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

- **Connectivity**
  - 2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0

- **VGA/Audio**
  - VGA via BMC

- **Management**
  - Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog

- **Drive Bays**
  - 4x Internal 2.5” Drive Bays

- **Peripheral Bays**
  - N/A

- **Power Supply**
  - FRDN13+: 600W DC-48V input Redundant Power Supply  
  - FRN13+: 800W Redundant Power Supply, 80 PLUS Platinum

- **Cooling System**
  - 3x 80x80mm PWM redundant fans

- **Form Factor**
  - 267 x 117 x 406mm (10.5” x 4.62” x 16”)

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*Please check with your Supermicro sales representative and website for compatibility and configuration details*
### MODEL | AS -E301-9D-8CN4 | SYS-E301-9D-8CN8TP | SYS-E302-9A | SYS-E302-9D
--- | --- | --- | --- | ---
**Processor Support** | AMD EPYC™ 3251 SoC Processor, 8 Core/16 Thread, 2.5GHz / 50w | Intel® Xeon® D-2146NT, 8 Core, 80W | Intel® Atom® Processor C3558.<br>-Single Socket FCBGA-1310 supported, CPU TDP support up to 16W TDP | Intel® Xeon® D-2123IT, 4-Core, 60W
**Key Applications** | • Embedded IoT Computing | • SD-WAN, vCPUs controller box | • IoT Edge Computing | • IoT Edge Computing | • Retail, Smart Medical Expert Systems | • Artificial Intelligence (AI) on Edge, Machine Learning (ML) | • Networking Appliance | • Networking Appliance
**Outstanding Features** | • AMD Embedded EPYC™ 3251 SoC Processor, 8 Core/16 Thread | • 1 M.2 M-key for NVMe, 2242/80 | • Built in Intel® QAT up to 40Gbps Crypto/Compression | • 8 LAN ports support (2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE) | • 8 LAN ports support(2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE) | • Support on board 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B key for SSD/WAN card, 1 Mini PCI-E with mSATA Support | • 7 year life cycle | • 7 year life cycle | • 7 year life cycle | • 7 year life cycle
**Serverboard Support** | SUPER® M11SDV-8C-LN4F | SUPER® X11SDV-8C-TP8F | SUPER® A2SDi-4C-HLN4F | SUPER® X11SDV-4C-TP8F-01
**Chipset** | System on Chip | System On Chip | System on Chip | System on Chip
**System Memory (Max.)** | DDR4 512GB up to 2666MHz ECC/Non-ECC RDIMM, UDIMM, LRDIMM in 4 DIMM slots | DDR4-2666 512GB LRDIMM or 256GB Registered ECC RDIMM in 4 DIMM slots | Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM, DDR4-2133MHz, in 4 DIMM slots | Up to 256GB Registered ECC RDIMM, DDR4-2133MHz, in 4 DIMM slots
**Expansion Slots** | 1 PCIe Express 3.0 x16 AOC slot (LP), 1 M.2/M Key for NVMe, 2242/80 | 1 Mini-PCI-E with mSATA Support, 1 PCI-E 3.0 x8 slots | 1x M.2 M Key 2242/2280 (PCI-E 3.0 x 2) | 1 PCI-E 3.0 x 8
**Onboard Storage Controller** | SoC controller for 4x SATA3.0 | SoC controller for 2x SATA 3.0 | SoC controller for 2 SATA3 ports; RAID 0,1 | SoC controller for 2 SATA3 ports; RAID 0,1
**Connectivity** | 4x 1GbE LAN, 1x Dedicated IPMI LAN, 2 USB 3.0 | 2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0 | 4x 1GbE, 1x dedicated IPMI LAN, 2x USB 2.0 | 2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0
**VGA/Audio** | VGA via BMC | VGA via BMC | Aspeed AST2400 BMC | Aspeed AST2500 BMC
**Management** | IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog | IPMI 2.0, KVM with dedicated LAN, Watchdog | IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog | IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog
**Drive Bays** | 2x 2.5” fixed drive bay bracket, supporting 15mm 2.5” Enterprise drive | Support up to 4x 7mm SSD | 2x 2.5” 7mm fixed drive bay | 2x 2.5” fixed drive bay with bracket
**Peripheral Bays** | N/A | N/A | N/A | N/A
**Power Supply** | Lockable 12V DC 150W power adapter | DC power adapter | Lockable 12V DC 60W power adapter | 150W 12V Lockable DC Power Adapter; Optional 180W 12V Lockable DC Power Adapter
**Cooling System** | 3x 40x28mm 4-PIN PWM Fan(FAN-0100L4, 8.5K RPM) | Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5K RPM) | Fanless | Fanless
**Form Factor** | 254 x 66 x 226mm (10” x 2.6” x 8.9") | 254 x 66 x 226mm (10” x 2.6” x 8.9") | 295 x 76 x 206mm (11.6” x 3” x 8.1") | 295 x 76 x 206mm (11.6” x 3” x 8.1")

* Please check with your Supermicro sales representative and website for compatibility and configuration details
<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E300-9A-4CN10P</th>
<th>SYS-E300-9A-8CN10P</th>
<th>SYS-E300-9A-4CN8</th>
<th>SYS-E300-9A-8CN8</th>
<th>SYS-E300-9A-4C</th>
<th>SYS-E300-9A-8C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom™ Processor Denvertion C3558, SoC, 4 Cores, 16W, 2.2 GHz</td>
<td>Intel® Atom™ Processor Denvertion C3558, SoC, 8 Cores, 22W, 2.2 GHz</td>
<td>Intel® Atom™ Processor Denvertion C3558, SoC, 4 Cores, 16W, 2.2 GHz</td>
<td>Intel® Atom™ Processor Denvertion C3558, SoC, 8 Cores, 22W, 2.2 GHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Applications</td>
<td>Virtual-CPE White Box Solution</td>
<td>Network Security Appliance</td>
<td>Embedded IoT Gateway</td>
<td>Networking Edge Device</td>
<td>Virtual-CPE White Box Solution</td>
<td>Network Security Appliance</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>8x 1Gbps RJ45 and 2x 1G SFP ports onboard</td>
<td>LED indicator for each LAN port</td>
<td>7 year life cycle</td>
<td>IPMI 2.0 management with dedicated LAN</td>
<td>8x 1Gbps RJ45 and 2x 1G SFP ports onboard</td>
<td>LED indicator for each LAN port</td>
</tr>
<tr>
<td>Serverboard</td>
<td>4C: SUPER® A2SDV-4C-LN10PF</td>
<td>8C: SUPER® A2SDV-8C-LN10PF</td>
<td>4C: SUPER® A2SDV-4C-LN8F</td>
<td>8C: SUPER® A2SDV-8C-LN8F</td>
<td>4C: SUPER® A2SDV-4C-4HLN4F</td>
<td>8C: SUPER® A2SDV-8C-4HLN4F</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
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<tr>
<td>System Memory (Max.)</td>
<td>Up to 256GB Registered ECC DDR4-2133MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2133MHz in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC DDR4-2400MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC DDR4-2400MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz in 4 DIMM slots</td>
<td></td>
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<tr>
<td>Expansion Slots</td>
<td>-4CN10P: 1x PCI Express 3.0 x2 AOC slot (LP) when SSD isn’t populated, 1 M.2 B Key 3042/2280(PCI-E 3.0 x2)</td>
<td>-4CN8: 1x PCI Express 3.0 x2 AOC slot (LP) when only 1 SSD populated, 1 M.2 B Key 3042/2280(PCI-E 3.0 x2)</td>
<td>-4C: 1x PCI Express 3.0 x4 AOC slot (LP), 1x M.2 Key 2242/2280(PCI-E 3.0 x4)</td>
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<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 3x SATA3.0</td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 4x SATA3.0</td>
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<tr>
<td>Connectivity</td>
<td>8x 1Gbps RJ45 and 2x 1G SFP, 1 dedicated IPMI LAN, 2 USB3.0, Optional Console port by request</td>
<td>8x 1Gbps RJ45, 1 dedicated IPMI LAN, 2 USB3.0, Optional Console port by request</td>
<td>4x 1Gbps, 1 dedicated IPMI LAN, 2 USB 2.0, Optional Console port by request</td>
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<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
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<tr>
<td>Management</td>
<td>OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
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<tr>
<td>Drive Bays</td>
<td>1x 2.5” fixed drive bay when AOC area is not occupied.</td>
<td>1x 2.5” fixed drive bay when AOC area is not occupied.</td>
<td>1x 2.5” fixed drive bay when AOC area is not occupied.</td>
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<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
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<tr>
<td>Cooling System</td>
<td>1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request</td>
<td>1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request</td>
<td>1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request</td>
<td></td>
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</tr>
<tr>
<td>Form Factor</td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9”)</td>
<td>Package: 381 x 276 x 142mm (15” x 10.87” x 5.59”)</td>
<td>Gross Weight: 6.4lbs (2.9kg)</td>
<td>Net Weight: 3.8lbs (1.72kg)</td>
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</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
### MODEL | SYS-E300-9C | SYS-E300-9D-8CN8TP | SYS-E300-9D-4CN8TP | SYS-E300-9A-16CN8TP
---|---|---|---|---
**Processor Support** | 8th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® Processor | Intel® Skylake Xeon® D-2146NT SoC, 2.3GHz, 8 Core, 80W | Intel® Xeon® D-2123IT, 4 Cores, 60W | Intel® Atom™ Processor Denverton C3958, SoC, 16 Cores
**Key Applications** | • IoT Edge Computing • DVR/NVR • Machine Automation • Digital Signage • Medical Applications • IoT Gateway | • SDN-WAN, vCPE controller box • NFV Edge Computing Server • Virtualization Server • FireWall Applications • IoT Edge Computing | • SDN-WAN, vCPE controller box • NFV Edge Computing Server • Virtualization Server • FireWall Applications • IoT Edge Computing | • Embedded Networking Applications • Network Security Appliance • Firewall Applications • Virtualization Server
**Outstanding Features** | Coffee Lake 8th Gen Core i3/i5/i7 Embedded long-life • 1U Box Edge Devices • TPM onboard | Built in Intel® QAT up to 40Gbps Crypto/Compression • Supports up to 8C high Density SKL-D SoC processor for edge network computing | 8 LAN ports support (2 x 10G SFP+, 2 x 10GbE Base-T, 4 x GbE) | 8 LAN ports support (2 x 10G SFP+, 2 x 10GbE Base-T, 4 x GbE) • Dual SFP+, Dual 10GBase-T and Quad GbE • Short depth (less than 10 depth) • Best Performance per Watt • 7 year life cycle • IPMI 2.0 management with dedicated LAN
**Serverboard** | SUPER® X11SCV-Q | SUPER® X11SDV-8C-TP8F | SUPER® X11SDV-4C-TP8F | SUPER® A2SDI-16C-TP8F
**Chipset** | Intel® Q370 chipset | System On Chip | System On Chip | System On Chip
**System Memory (Max.)** | Up to 256GB Unbuffered non-ECC SO-DIMM, DDR4-2466MHz, in 2 DIMM slots | DDR4-2666 512GB LRDIMM or 256GB Registered ECC RDIMM in 4 DIMM slots | DDR4-2666 512GB LRDIMM or 256GB Registered ECC RDIMM in 4 DIMM slots | Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots
**Expansion Slots** | 1xPCI Express 3.0 x16 AOC slot (LP) and M.2 M key: SATA/PCH-E.3.0 x4, support 2242/2280 length; M.2 E KEY: PCI-E 3.0 x4, support 2230 length | 1 Mini-PCI-E with mSATA Support, 1 PCI-E 3.0x8 slots, | 1 Mini-PCI-E with mSATA Support, 1 PCI-E 3.0x8 slots, | 1 PCI Express 3.0 x4 AOC slot (LP), 1 M.2(M Key for SSD 2242/80, PCI-E SATA3.0), 1 Mini-PCI-E/w mSATA Half Size
**Onboard Storage Controller** | Q370 controller for 2 SATA3 ports; RAID 0,1 | SoC controller for 4x SATA3 (6 Gbps) ports | SoC controller for 4x SATA3 (6 Gbps) ports | SoC controller for 2x SATA3.0
**Connectivity** | 2 x 1GE LAN with AMT, 4 x USB 3.1 (2 type A & 2 type C in rear), HD Audio(Mic In/Line Out) | 2 x 10G SFP+, 2 x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0 | 2 x 10G SFP+, 2 x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0 | 2 x 10GbE SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0
**VGA/Audio** | 1 DVI-D, 1 HDMI, 1DP(DisplayPort), 3 Independent displays; 1 eDP(Embedded DisplayPort) | VGA via BMC | VGA via BMC | VGA via BMC
**Management** | AMT, NMI, SuperDoctor® 5, vPro, Watchdog | IPMI 2.0, KVM with dedicated LAN, Watchdog | IPMI 2.0, KVM with dedicated LAN, Watchdog | Intel’ Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor’ 5, Watchdog
**Drive Bays** | 2x 2.5” fixed drive bay | 1x 2.5” fixed drive bay with bracket. (No 2.5” fixed drive bay when AOC area is occupied.) | 1x 2.5” fixed drive bay with bracket. | 2x 2.5” fixed drive bay: one bracket, one on base mount. (1x 2.5” fixed drive bay when AOC area is occupied.)
**Peripheral Bays** | Power Supply | N/A | N/A | N/A
**Cooling System** | 2x 4cm high performance PWM fan; optional for 1x fan to add-on card area cooling | Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5K RPM) 254 x 43 x 226mm (10” x 1.7” x 8.9”) | Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5K RPM) 254 x 43 x 226mm (10” x 1.7” x 8.9”) | 2x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM)
**Form Factor** | 254 x 43 x 226mm (10” x 1.7” x 8.9”) | 254 x 43 x 226mm (10” x 1.7” x 8.9”) | 254 x 43 x 226mm (10” x 1.7” x 8.9”) | 254 x 43 x 226mm (10” x 1.7” x 8.9”)

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
### Model Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor Support</th>
<th>Key Applications</th>
<th>Outstanding Features</th>
<th>Serverboard</th>
<th>Chipset</th>
<th>System Memory (Max.)</th>
<th>Expansion Slots</th>
<th>Onboard Storage Controller</th>
<th>Connectivity</th>
<th>VGA/Audio</th>
<th>Management</th>
<th>Drive Bays</th>
<th>Peripheral Bays</th>
<th>Power Supply</th>
<th>Cooling System</th>
<th>Form Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS-E300-9D</td>
<td>Intel® Skylake Xeon® D-2123IT SoC, 2.2GHz, 4 Core, 8 Thread, TDP 60W</td>
<td>• Network Security Appliance • SDN-WAN, vCPE controller box • NFV Edge Computing Server • Virtualization Server • IoT Edge Computing</td>
<td>• Supports up to 4C high Density SKL-D SoC processor for edge network computing • High Memory Bandwidth-Supports 4 DDR4 channel DIMMs(16GB ECC RDIMM or ECC RDIMM) up to 2400 MHz memory speed, Max memory capacity up to 512GB on LRDIMM • 1x Low Profile PCI-E 3.0 x 8 slot, 1 on board Oculink port(1x 10GbE &amp; 1x 802.3ac, 1x 10GbE Base-T ethernet ports RMDA support • 2 x USB 3.0, 1 x SATA 3.0 ports(SATA/SAS HDD/SSD) • 1 x TPM 2.0 header</td>
<td>SUPER® X11SDDV-4C-TLN2F</td>
<td>System On Chip</td>
<td>4 x DDR4 DIMM 512 GB up to 2400MHz LRDIMM or 256GB RDIMM, ECC/non-ECC</td>
<td>1 PCI-E 3.0x8(L/P)</td>
<td>SoC controller for 4 SATA(3.6 Gbps) ports; support RAID 0,1,5,10, 4 SATA ports via Oculink port(1xPCI-Ex4 NVMe for NVMe SSD)</td>
<td>2x 10GBase-T LAN, 1 dedicated IPMI LAN, 2 USB 3.0</td>
<td>VGA via BMC</td>
<td>IPMI 2.0</td>
<td>1x 2.5” internal drive bay</td>
<td>N/A</td>
<td>MCP-250-1012B-0N (150W)</td>
<td>3x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM), none</td>
<td></td>
</tr>
<tr>
<td>SYS-E300-8D</td>
<td>Intel® Xeon® Processor D-1518, SoC 4 Core, 35W, 2.2GHz</td>
<td>• Embedded Networking Applications • Network Security Appliance • FireWall Applications • Virtualization Server</td>
<td>• Dual SFP+ and 6 GbE • Short depth (less than 10 depth) • Low Power Xeon® D SoC 4 Core • Best Performance per Watt • 7 year life cycle • IPMI 2.0 management with dedicated LAN</td>
<td>SUPER® X10SDDV-TP8F</td>
<td>System on Chip</td>
<td>Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets</td>
<td>1 PCI-E 3.0x8 AOC slot (LP), 1 PCIe Key for SSD</td>
<td>SoC controller for 4x SATA3.0</td>
<td>2x GbE and 2 SFP+, 1 dedicated management port, 2x USB 3.0</td>
<td>VGA via BMC</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor ® S, Watchdog</td>
<td>1x 2.5” fixed drive bay with bracket. (No 2.5” fixed drive bay when AOC area is occupied.)</td>
<td>N/A</td>
<td>DC power adapter</td>
<td>3x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM), none</td>
<td></td>
</tr>
<tr>
<td>SYS-E200-8D</td>
<td>Intel® Xeon® Processor D-1528, SoC 6 Core, 35W, 1.9GHz</td>
<td>• Smallest Xeon® Server BOX • Low Power Xeon® D SoC 6 Core • Best Performance per Watt • 7 year life cycle • IPMI 2.0 management with dedicated LAN</td>
<td>• Smallest Xeon® Server BOX • Low Power Xeon® D SoC 6 Core • Best Performance per Watt • 7 year life cycle • IPMI 2.0 management with dedicated LAN</td>
<td>SUPER® X10SDDV-6C-TLN4F</td>
<td>System on Chip</td>
<td>Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 DIMM slots</td>
<td>1 M.2(8 M Key for SSD 2242/80, PCI-E/SATA3.0)</td>
<td>SoC controller for 6x SATA3.0</td>
<td>2x GbE and 2x 10G LAN ports, 1 dedicated management port, 2 USB 3.0</td>
<td>N/A</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor ® S, Watchdog</td>
<td>1x 2.5” fixed drive bay with bracket. (Design for 9.5mm thickness HDD with Low Profile Memory)</td>
<td>N/A</td>
<td>DC power adapter</td>
<td>3x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM), none</td>
<td></td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
# X12 IoT/Embedded

## Compact Fanless Server

### Tiger Lake

**Outstanding Features**
- Form Factor: 195 x 44mm x 159mm
- Cooling System: Fanless
- Power Supply: Lockable 12V DC 60W or 84W power adapter
- Management: SuperDoctor® 5, Watchdog
- VGA/Audio: Intel® UHD Graphics

### Table: Tiger Lake

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-12T-C</th>
<th>SYS-E100-12T-L</th>
<th>SYS-E100-12T-E</th>
<th>SYS-E100-12T-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>11th Generation Intel® Celeron® Processor 6305E Processor; up to TDP 15W</td>
<td>11th Generation Intel® Core™ i3-1115G4 Processor; up to TDP 15W</td>
<td>11th Generation Intel® Core™ i5-1145GRE Processor; up to TDP 15W</td>
<td>11th Generation Intel® Core™ i7-1185GRE Processor; up to TDP 15W</td>
</tr>
</tbody>
</table>
| Key Applications | - Industrial Automation, Retail, Smart Medical Expert Systems
- Kiosk, Interactive information system
- IoT Gateway for Smart Factory, Smart Building
- Security and Surveillance
- Digital Signage
| - Industrial Automation, Retail, Smart Medical Expert Systems
- Kiosk, Interactive information system
- IoT Gateway for Smart Factory, Smart Building
- Security and Surveillance
- Digital Signage
| - Industrial Automation, Retail, Smart Medical Expert Systems
- Kiosk, Interactive information system
- IoT Gateway for Smart Factory, Smart Building
- Security and Surveillance
- Digital Signage
| - Industrial Automation, Retail, Smart Medical Expert Systems
- Kiosk, Interactive information system
- IoT Gateway for Smart Factory, Smart Building
- Security and Surveillance
- Digital Signage |
| Outstanding Features | - 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 1 DP 1.4 (type-C)
- 4 USB 3.1 Gen 2
- Dual 2.5GbE LAN

- 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 1 DP 1.4 (type-C)
- 4 USB 3.1 Gen 2
- Dual 2.5GbE LAN

- 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 1 DP 1.4 (type-C)
- 4 USB 3.1 Gen 2
- Dual 2.5GbE LAN

- 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 1 DP 1.4 (type-C)
- 4 USB 3.1 Gen 2
- Dual 2.5GbE LAN |
| Serverboard | SUPER® X12STN-L-WOHS | SUPER® X12STN-E-WOHS | SUPER® X12STN-E-WOHS | SUPER® X12STN-H-WOHS |
| Chipset | System on Chip | System on Chip | System on Chip | System on Chip |
| System Memory (Max.) | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots |
| Expansion Slots | 1x2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1) with nano SIM holder
1x M.2 2230 E-Key (CNVI/PCI-E 3.0 x1/USB2)
1x M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support | 1x2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1) with nano SIM holder
1x M.2 2230 E-Key (CNVI/PCI-E 3.0 x1/USB2)
1x M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support | 1x2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1) with nano SIM holder
1x M.2 2230 E-Key (CNVI/PCI-E 3.0 x1/USB2)
1x M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support | 1x2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1) with nano SIM holder
1x M.2 2230 E-Key (CNVI/PCI-E 3.0 x1/USB2)
1x M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support |
| Onboard Storage Controller | N/A | N/A | N/A | N/A |
| Connectivity | Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) | Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) | Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) | Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) |
| VGA/Audio | Intel® UHD Graphics | Intel® Iris® Xe Graphics | Intel® Iris® Xe Graphics | Intel® Iris® Xe Graphics |
| Management | SuperDoctor® 5, Watchdog | SuperDoctor® 5, Watchdog | AMT, SuperDoctor® 5, vPro, Watchdog | AMT, SuperDoctor® 5, vPro, Watchdog |
| Drive Bays | N/A | N/A | N/A | N/A |
| Peripheral Bays | N/A | N/A | N/A | N/A |
| Power Supply | Lockable 12V DC 60W or 84W power adapter | Lockable 12V DC 60W or 84W power adapter | Lockable 12V DC 60W or 84W power adapter | Lockable 12V DC 60W or 84W power adapter |
| Cooling System | Fanless | Fanless | Fanless | Fanless |
| Form Factor | 195 x 44mm x 159mm (7.68” x 1.73” x 6.25”) | 195 x 44mm x 159mm (7.68” x 1.73” x 6.25”) | 195 x 44mm x 159mm (7.68” x 1.73” x 6.25”) | 195 x 44mm x 159mm (7.68” x 1.73” x 6.25”) |

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
### IoT/Embedded

**Fanless IoT Gateway/Server**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-9S</th>
<th>SYS-E100-9S-E</th>
<th>SYS-E100-9S-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>7th Generation Intel® Core™ i7-7600U Processor; up to TDP 15W</td>
<td>7th Generation Intel® Core™ i5-7300U Processor; up to TDP 15W</td>
<td>7th Generation Intel® Core™ i3-7100U Processor; up to TDP 15W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• IoT Edge Computing</td>
<td>• IoT Edge Computing</td>
<td>• IoT Edge Computing</td>
</tr>
<tr>
<td></td>
<td>• Kiosk, Interactive information system</td>
<td>• Kiosk, Interactive information system</td>
<td>• Kiosk, Interactive information system</td>
</tr>
<tr>
<td></td>
<td>• Environmental Monitor</td>
<td>• Environmental Monitor</td>
<td>• Environmental Monitor</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Core i Fanless Compact Ruggedized Box PC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 1 HDMI and 1 Display Port</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 1 USB3.1, 2 USB 3.0, 4 USB 2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 4 COM (RS-232/422/485)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 1 8-bit configurable GPIO via DB9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 2 Gigabit Ethernet Ports</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• TPM2.0 onboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X115SN-H-WOHS</td>
<td>SUPER® X115SN-E-WOHS</td>
<td>SUPER® X115SN-L-WOHS</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 Full size Mini-PCI-E; 1 M.2 2280 B-Key</td>
<td>1 Full size Mini-PCI-E; 1 M.2 2280 B-Key</td>
<td>1 Full size Mini-PCI-E; 1 M.2 2280 B-Key</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Dual LAN with Intel®PHY I219LM, 1 USB3.1, 2 USB3.0, 4 USB2.0, 4 COM (RS-232/422/485), 1 8-bit GPIO via DB9, TPM2.0 onboard</td>
<td>Dual LAN with Intel®PHY I219LM, 1 USB3.1, 2 USB3.0, 4 USB2.0, 4 COM (RS-232/422/485), 1 8-bit GPIO via DB9, TPM2.0 onboard</td>
<td>Dual LAN with Intel®PHY I219LM, 1 USB3.1, 2 USB3.0, 4 USB2.0, 4 COM (RS-232/422/485), 1 8-bit GPIO via DB9, TPM2.0 onboard</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 DisplayPort, 1 HDMI</td>
<td>1 DisplayPort, 1 HDMI</td>
<td>1 DisplayPort, 1 HDMI</td>
</tr>
<tr>
<td>Management</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td>Form Factor</td>
<td>195 x 44 x 151mm (7.68&quot; x 1.73&quot; x 5.94&quot;)</td>
<td>195 x 44 x 151mm (7.68&quot; x 1.73&quot; x 5.94&quot;)</td>
<td>195 x 44 x 151mm (7.68&quot; x 1.73&quot; x 5.94&quot;)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
**IP51 Fanless IoT Gateway/Server**

**Key Applications**
- IoT Gateway
- Commercial Appliances
- Support Cloud-based Management Software
- IP51 with plastic chassis design for water/dust proof
- Palm-size for space-limited environment
- Built-in Antenna

**Outstanding Features**
- Cost-effective
- System on Chip
- Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket
- 1 Full size Mini-PCI-E; 1 Half size Mini-PCI-E; 1 M.2 B-Key 2242; 1 M.2 E-Key 2230
- 1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5" SATA SSD
- Dual LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 2 COM (RS-232/422/485), TPM2.0 onboard
- 2 HDMI
- SuperDoctor® 5, Watchdog

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E50-9AP</th>
<th>SYS-E50-9AP-L</th>
<th>SYS-E50-9AP-N5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom™ Processor x5-E3940; up to TDP 9.5W</td>
<td>Intel® Atom™ Processor x5-E3940; up to TDP 9.5W</td>
<td>Intel® Atom™ Processor x5-E3940; up to TDP 9.5W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>- IoT Gateway</td>
<td>- Cost Optimized IoT Gateway</td>
<td>- 5 LAN Fanless Embedded System</td>
</tr>
<tr>
<td></td>
<td>- Commercial Appliance</td>
<td>- Commercial Appliance</td>
<td>- Entry Networking Appliance</td>
</tr>
<tr>
<td></td>
<td>- Support Cloud-based Management Software</td>
<td>- Palm-size for space-limited environment</td>
<td>- IoT Gateway</td>
</tr>
<tr>
<td></td>
<td>- IP51 with plastic chassis design for water/dust proof</td>
<td>- Cost optimized</td>
<td>- 5 LAN Fanless Embedded System</td>
</tr>
<tr>
<td></td>
<td>- Palm-size for space-limited environment</td>
<td></td>
<td>- TPM 2.0 onboard</td>
</tr>
<tr>
<td></td>
<td>- Built-in Antenna</td>
<td></td>
<td>- Built-in Antenna</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® A2SAP-H</td>
<td>SUPER® A2SAP-H</td>
<td>SUPER® A2SAP-H</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 Full size Mini-PCI-E; 1 Half size Mini-PCI-E; 1 M.2 B-Key 2242; 1 M.2 E-Key 2230</td>
<td>1 Half size Mini-PCI-E; 1 M.2 B-Key 2242</td>
<td>1 Half size Mini-PCI-E; 1 M.2 B-Key 2242; 1 M.2 E-Key 2230</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>1 M.2 B-Key 2242 for SATA SSD</td>
<td>1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 2 COM (RS-232/422/485), TPM2.0 onboard</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0</td>
<td>5 LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 1 COM, TPM2.0 onboard</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>2 HDMI</td>
<td>1 HDMI</td>
<td>2 HDMI</td>
</tr>
<tr>
<td>Management</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>N/A</td>
<td>1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>Lockable 12V DC 40W power adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td>Form Factor</td>
<td>148 x 44 x 118mm (5.82&quot; x 1.72&quot; x 4.64&quot;)</td>
<td>148 x 44 x 118mm (5.82” x 1.72” x 4.64&quot;)</td>
<td>148 x 44 x 118mm (5.82” x 1.72” x 4.64&quot;)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
**IoT/Embedded**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-1018L-MP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
<td>Intel® Atom® X5-E3930; up to TDP 6.5W</td>
<td>4th Generation Intel® Core i7, i5, i3, Pentium &amp; Celeron Processor. <em>Please contact your Supermicro Representative for details</em></td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>IoT Gateway, Commercial Appliance</td>
<td>Embedded Applications</td>
<td>Video Processing and Broadcasting Server, Security Appliance and Video Surveillance, Digital Signage, Indoor Kiosk</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>Built-in Antenna and Dual band Wireless/Bluetooth combo module, IPS1 with plastic chassis design for water/dust proof, Cable-less design for easy maintenance, Fanless design with palm-size dimension, Support Cloud-based Management Software</td>
<td>Building Block Solution for Embedded Applications, Easy integration</td>
<td></td>
</tr>
<tr>
<td><strong>Model</strong></td>
<td>SUPER® A25AP-H</td>
<td>SUPER® A2SAN-L</td>
<td>SUPER® X10SLV</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>H81</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM slot</td>
<td>2 DIMMS up to 16GB of DDR3 Non-ECC SODIMM up to 1600MHz</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 Full size Mini-PCI-E; 1 Half size Mini-PCI-E; 1 M.2 B-Key 2242</td>
<td>1 Full Size Mini-PCI-E; 1 M.2 2280 B-Key</td>
<td>1 Mini-PCI-E slot (Full and half size card with mSATA support)</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>M.2 B-Key 2280 for SATA SSD, 1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>Intel® H81 controller for 2 SATA3 (6 Gbps) ports; RAID 2SATA2 (3 Gbps)</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 2 COM (RS-232/422/485), TPM 2.0 onboard, Dual Band Wireless and Bluetooth 4.2</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, TPM2.0 onboard</td>
<td>USB 3.0</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 VGA</td>
<td>1 HDMI</td>
<td>1 HDMI, 1 DP ALC 8885 HD Audio</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>NMI; SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>1 internal 2.5&quot; Hard Drive</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Lockable 12V DC 40W power adapter</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>84W Power Adapter</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>Fanless</td>
<td>Passive CPU heat sink and 1x 40mm chassis fans</td>
<td>High Performance 6cm fan</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>148 x 44 x 118mm (5.82&quot; x 1.72&quot; x 4.64&quot;)</td>
<td>1U Box; Enclosure: 190 x 44 x 120mm (7.48&quot; x 1.72&quot; x 4.72&quot;) Package: 241 x 140 x 203mm (9.5&quot; x 5.5&quot; x 8&quot;)</td>
<td>Mini-ITX box</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details

**Only available for NA and EU region. For other regions, please contact your sale representatives

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**Embedded/IoT Building Block Solutions - October 2021**

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* 45
## Extended Temperature Fanless IoT Gateway/Server

### MODEL

<table>
<thead>
<tr>
<th>Processor Support</th>
<th>Key Applications</th>
<th>Outstanding Features</th>
<th>Serverboard</th>
<th>Chipset</th>
<th>System Memory (Max.)</th>
<th>Expansion Slots</th>
<th>Onboard Storage Controller</th>
<th>Connectivity</th>
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<th>Drive Bays</th>
<th>Peripheral Bays</th>
<th>Power Supply</th>
<th>Cooling System</th>
<th>Form Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
<td>• IoT Gateway for Smart Factory, Smart Building, Smart Home</td>
<td>• Low power Apollo Lake Atom™ E3940, 4C</td>
<td>SUPER® A2SAN-E-WOHS</td>
<td>System on Chip</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>1 Full size Mini-PCI-E; 1 M.2 2280 B-Key</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 B-bit configurable GPIO via DB9, TPM2.0 onboard</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>N/A</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>Fanless</td>
<td>195 x 44 x 151mm (7.68” x 1.73” x 5.94”)</td>
<td></td>
</tr>
<tr>
<td>Intel® Pentium™ N4200; up to TDP 6W</td>
<td>• IoT Gateway for Smart Factory, Smart Building, Smart Home</td>
<td>• Fanless Compact Ruggedized Box PC</td>
<td>SUPER® X11SAN-WOHS</td>
<td>System on Chip</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>1 Full size Mini-PCI-E; 1 M.2 2280 B-Key</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>Dual LAN with Intel® I210-IT, 1 USB3.1, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 B-bit configurable GPIO via DB9, TPM2.0 onboard</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>N/A</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>Fanless</td>
<td>195 x 44 x 151mm (7.68” x 1.73” x 5.94”)</td>
<td></td>
</tr>
<tr>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
<td>• IoT Gateway for Smart Factory, Smart Building</td>
<td>• Fanless Compact Ruggedized Box PC</td>
<td>SUPER® A2SAN-E-WOHS</td>
<td>System on Chip</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>1 Full size Mini-PCI-E; 1 M.2 2280 B-Key</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 B-bit configurable GPIO via DB9, TPM2.0 onboard</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>1 SATA 3.0 for 2.5” SATA SSD</td>
<td>N/A</td>
<td>12V DC 60W power adapter, Terminal Block</td>
<td>Fanless</td>
<td>194 x 80 x 126mm (7.64” x 3.15” x 4.96”)</td>
</tr>
</tbody>
</table>

**Please check with your Supermicro sales representative and website for compatibility and configuration details.**
### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-9W-H</th>
<th>SYS-E100-9W-E</th>
<th>SYS-E100-9W-L</th>
<th>SYS-E100-9W-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>8th Generation Intel® Core™ i7-8665U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8859U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i3-8145U Processor; up to TDP 15W</td>
<td>Intel® Celeron® Processor 4305U Processor; up to TDP 15W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>- Fanless IoT Gateway/Server</td>
<td>- Fanless IoT Gateway/Server</td>
<td>- Fanless IoT Gateway/Server</td>
<td>- Fanless IoT Gateway/Server</td>
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<tr>
<td>Serverboard</td>
<td>SUPER X11SWN-H-WOHS</td>
<td>SUPER X11SWN-E-WOHS</td>
<td>SUPER X11SWN-L-WOHS</td>
<td>SUPER X11SWN-C-WOHS</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2 GbE LAN (2101IT+2191LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (2101IT+2191LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (2101IT+2191LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (2101IT+2191LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
</tr>
<tr>
<td>Management</td>
<td>SuperDoctor® 5, Watchdog, AMT, vPro</td>
<td>SuperDoctor® 5, Watchdog, AMT, vPro</td>
<td>SuperDoctor® 5, Watchdog, AMT, vPro</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
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<tr>
<td>Cooling System</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td>Form Factor</td>
<td>195 x 44 x 159mm (7.68” x 1.73” x 6.25”)</td>
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*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
**Embedded/IoT Building Block Solutions - October 2021**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-9W-IA-H</th>
<th>SYS-E100-9W-IA-E</th>
<th>SYS-E100-9W-IA-L</th>
<th>SYS-E100-9W-IA-C</th>
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</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>8th Generation Intel® Core™ i7-8665UE Processor; up to 15W TDP</td>
<td>8th Generation Intel® Core™ i5-8350U Processor; up to 15W TDP</td>
<td>8th Generation Intel® Core™ i3-8145UE Processor; up to 15W TDP</td>
<td>8th Generation Intel® Celeron® 4305UE Processor; up to 15W TDP</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Industrial Automation &amp; Control</td>
<td>• Industrial Automation &amp; Control</td>
<td>• Industrial Automation &amp; Control</td>
<td>• Industrial Automation &amp; Control</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Form Factor</td>
<td>194 x 115 x 126mm (7.64” x 4.52” x 4.96”)</td>
<td>194 x 115 x 126mm (7.64” x 4.52” x 4.96”)</td>
<td>194 x 115 x 126mm (7.64” x 4.52” x 4.96”)</td>
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<td>Chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
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</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2 GbE LAN (I210IT=I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (I210IT=I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (I210IT=I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
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</tr>
<tr>
<td>Management</td>
<td>AMT, SuperDoctor®, vPro, Watchdog</td>
<td>AMT, SuperDoctor®, vPro, Watchdog</td>
<td>SuperDoctor®, Watchdog</td>
<td>SuperDoctor®, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1 SATA SSD</td>
<td>1 SATA SSD</td>
<td>1 SATA SSD</td>
<td>1 SATA SSD</td>
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<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>12V DC 60W power adapter with Terminal Block</td>
<td>12V DC 60W power adapter with Terminal Block</td>
<td>12V DC 60W power adapter with Terminal Block</td>
<td>12V DC 60W power adapter with Terminal Block</td>
</tr>
<tr>
<td>Cooling System</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td><strong>Please check with your Supermicro sales representative and website for compatibility and configuration details</strong></td>
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</tbody>
</table>
## IoT/Embedded

### Building Block SBC

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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>8th Generation Intel® Core™ i7-8665UE Processor, TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8365UE Processor, TDP 15W</td>
<td>8th Generation Intel® Core™ i3-8145UE Processor, TDP 15W</td>
<td>Intel® Celeron® Processor 4305UE, TDP 15W</td>
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<tr>
<td>Key Applications</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>Digital Signage</td>
<td>Digital Signage</td>
<td>Digital Signage</td>
<td>Digital Signage</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>1 HDMI and 1 Display Port</td>
<td>1 HDMI and 1 Display Port</td>
<td>1 HDMI and 1 Display Port</td>
<td>1 HDMI and 1 Display Port</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>Passive CPU Heat Sink and 1x40mm Chassis Fan</td>
<td>Passive CPU Heat Sink and 1x40mm Chassis Fan</td>
<td>Passive CPU Heat Sink and 1x40mm Chassis Fan</td>
<td>Passive CPU Heat Sink and 1x40mm Chassis Fan</td>
</tr>
<tr>
<td>Form Factor</td>
<td>190 x 44 x 120mm (7.48” x 1.72” x 4.72”)</td>
<td>190 x 44 x 120mm (7.48” x 1.72” x 4.72”)</td>
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</tr>
</tbody>
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* Please check with your Supermicro sales representative and website for compatibility and configuration details.
# IoT/Embedded

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5029C-TN2</th>
<th>SYS-5029A-2TN4</th>
<th>SYS-5029AP-TN2</th>
<th>SYS-5029S-TN2</th>
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</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® 8th/9th Generation Core™ i9/® i7/® i5/® i3/® Pentium®/® Celeron® series Processor. Single Socket LGA-1151 (Socket H4) supported, CPU TDP support up to 65W TDP</td>
<td>Intel® Atom™ C3338 Denvertor Processor, SoC 2 Core, 9W, 1.5 GHz</td>
<td>Intel® Atom™ E3940 Apollo Lake Processor, SoC 4 Cores, 9.5W, 1.6 GHz</td>
<td>Intel® 6th/7th Generation Core™ i3,i5,i7 series, Pentium®, Celeron®; CPU TDP support up to 65W TDP</td>
</tr>
</tbody>
</table>
| **Key Applications** | • Surveillance Security Server  
• Compact Storage Appliance  
• Video processing and streaming  
• Small Medium Business Edge Server | • 7 Years Life Cycle  
• Compact Cloud Server  
• Edge Computing Device | • Database Processing & Storage  
• High Performance NAS Servers  
• Medical Applications  
• Security Appliance and Video Surveillance  
• Web Server for Small and Medium Business  
• Indoor Kiosk | • Database Processing & Storage  
• Web Server for Small and Medium Business  
• Medical Applications  
• Security Appliance and Video Surveillance  
• Indoor Kiosk |
| **Outstanding Features** | • Up to 32GB Non ECC SO-DIMM DDR4 2666 MHz  
• TPM chip onboard with jumper disable  
• Up to 4 Hot-Swap 3.5” SATA3 HDD and 2 internal 2.5” fixed HDD  
• 4 x USB 3.1 (2 type A & 2 type C in rear)  
• M.2 Key: M-Key; E-Key for WiFi (or CNVI) card  
• Quad Gigabit Ethernet LAN  
• Up to 4 hot-swap 3.5” SATA3 drives  
• IMPI 2.0 (dedicated LAN) with Virtual Media/KVM over LAN  
• 7 year life cycle | • Up to 4 Hot-Swap 3.5” SATA3 HDD, 1 internal 2.5” fixed HDD and 1 M.2 (M key 2242/80 PCIe-E 2.0x2)  
• Embedded long-life  
• 2x Gigabit LAN ports  
• Quiet Operation | • Up to 4 Hot-Swap 3.5” SATA3 HDD, 1 internal 2.5” fixed HDD and 1 M.2 (M key 2242/80 PCIe-E 2.0x2)  
• Embedded long-life  
• 2x Gigabit LAN ports  
• Quiet Operation | • DP, HDMI and DVI-I: 3 independent displays  
• Remote management via vPro technology  
• 2x Gigabit LAN ports  
• Quiet Operation |
| **Serverboard** | SUPER® X11SCV-Q | SUPER® A2SDi-2C-HLN4F | SUPER® A2SAX | SUPER® X11S5V-Q |
| **Chipset** | System on Chip | System on Chip | System on Chip | Intel® Q170 |
| **System Memory (Max.)** | Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666MHz, in 2 DIMM slots | Up to 128GB RDIMM or 32GB ECC/NON ECC UDIMM, DDR4-1866MHz in 2 DIMM slots | 8GB Unbuffered non-ECC DDR3-1866MHz SO-DIMM in 1 DIMM slot | 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots |
| **Expansion Slots** | 1 PCI-E 3.0 x16 (Low Profile); 1 M.2 PCI-E 3.0x4 M Key 2242/2280 | 1 PCI-E 3.0 x2 (in x4 open ended slot) | 1 PCI-E 2.0 x2 in x8 slot, 1 M.2 IM (key 2242/80 PCIe-E 2.0x2), 1 Mini-PCI-E with mSATA support | 1 PCI-E 3.0 x16 slot 1 x M.2 (M key 2242/80 PCIe-E 3.0x4) 1 x Mini-PCI-E with mSATA support |
| **Onboard Storage Controller** | SoC controller for 6 SATA3 (6 Gbps) ports | Marvel 88SE9230 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10; SoC controller for 2 SATA3 (6 Gbps) ports | Intel® Q170 Express controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10; | |
| **Connectivity** | 4 x USB 3.1 (2 type A & 2 type C in rear) | 4 x 1GbE LAN, 1 dedicated IMPI LAN, 2 USB2.0 | 2x 1GbE LAN, 2 USB3.0, 3 USB2.0 (2 front, 1 Type A), 1 Serial Port (RJ45) ALC 8885 HD Audio | 2x 1GbE, 4 USB3.0, 3 USB2.0 (2 front, 1 Type A), 2 RS232 ALC 8885 HD Audio |
| **VGA/Audio** | VGA via BMC | 1 HDMI, 1 DP, 1 VGA or eDP; Intel® HD Graphic 3 independent displays | 1 HDMI, 1 DP (Display Port), 1 DVI - D, 1 Intel® HD Graphic 3 Independent Displays | |
| **Management** | vPro and AMT | vPro and AMT | Intel® vPro | |
| **Drive Bays** | 4x 3.5” SATA Hot Swap drive bay and 2 x2.5” internal drive bay | 4x 3.5” hot-swap SAS/SATA 2x 2.5” fixed drive bay | 4x 3.5” hot-swap SAS/SATA 1x 2.5” fixed drive bay | |
| **Peripheral Bays** | N/A | 1x slim DVD-ROM drive bay (shared with 1 x 2.5” fixed drive bay) | 1x slim DVD-ROM drive bay (shared with 1 x 2.5” fixed drive bay) | |
| **Power Supply** | PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply | PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply | PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply | |
| **Cooling System** | 1x Active CPU cooler | 1x 12cm rear exhaust fan; 1x 12cm rear exhaust fan; SNK-P0046A4 - optional | 1x 12cm rear exhaust fan; SNK-P0046A4 - optional | |
| **Form Factor** | 210 x 240 x 279mm (8.27” x 9.45” x 11”) | 210 x 240 x 279mm (8.27” x 9.45” x 11”) | 210 x 240 x 279mm (8.27” x 9.45” x 11”) | 210 x 240 x 279mm (8.27” x 9.45” x 11”) |

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
### Processor Support
- **Intel® Atom® E3940**, Apollo Lake SoC, 4 Cores, 9.5W, 1.6GHz
- **Intel® Pentium® N3700** SoC, 4 Cores, 6W, 1.6GHz
- **Intel® Celeron™ J1900** SoC, 4 Core, 10W (2.0GHz)

### Key Applications
- Digital Signage
- Security Appliance and Video Surveillance
- Indoor Kiosk
- Embedded Applications
- Thin Client
- Digital Signage
- Indoor Kiosk

### Outstanding Features
- M.2 2242, 2280, 22110 with M-key (full size) mSATA support
- Dual display for HDMI, Display Port, VGA
- 2x Gbe LAN
- Cost Effective Embedded Mini ITX System
- Low Power Consumption
- 1U Compact Mini ITX BOX System
- Low power SoC Intel® Pentium® N3700 (10W, 4C)
- Dual display for HDMI, Display Port, VGA
- Intel® i210AT Quad GbE LAN
- 2 x USB 3.0 ports, 2 x USB 2.0 (Rear I/O)
- COM port (Rear I/O)

### Serverboard
- **SYS-E200-9AP**
- **SYS-E200-9B**
- **SYS-E200-8B**

### Chipset
- System on Chip

### System Memory (Max.)
- 8GB Unbuffered non-ECC DDR3L-1866MHz SODIMM

### Expansion Slots
- 1 M.2 PCI-E 2.0 x2, M Key 2242/2280
- 1 mini-PCI-E slot with mSATA support

### Onboard Storage Controller
- SoC controller for 2 SATA3 (6 Gbps) ports
- SATA 2.0 (3Gbps) from Intel® SoC, SATA 3.0 (6Gbps) from Marvell 88SE9230

### Connectivity
- 2x 1GbE LAN, 2 USB3.0, 2 USB2.0, 2 Serial Port (RI4S and DB9)
- 1 Display Port, 1 HDMI, 1 VGA (Two Independent Displays)

### Management
- SuperDoctor* 5; Watchdog: IPMI 2.0 with KVM support
- SuperDoctor* 5, Watch Dog

### Drive Bays
- N/A
- 1x 2.5" internal HDD support
- 1x 2.5" internal HDD support

### Peripheral Bays
- N/A
- N/A
- N/A

### Power Supply
- Lockable 12V DC 60W power adapter
- Lockable 12V DC 60W power adapter

### Cooling System
- 1x 4cm fan
- 1x 4cm high performance PWM fan, support up to 2 chassis fans

### Form Factor
- 1U Compact Box; Enclosure: 195 x 44 x 195mm (7.68” x 1.75” x 7.68”)
- Package: 381 x 276 x 142mm (15” x 10.87” x 5.59”)
- Net Weight: 5.5lbs (2.49kg)

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## Embedded/IoT Building Block Solutions - October 2021

![Image](https://via.placeholder.com/150)

**Intel® Atom® C2758, 8-Cores, 7 LAN with 3-pair LAN bypass**

**Intel® Xeon® D-1537, SoC, 8 Core**

**Intel® Pentium® D1508, SoC, Dual Core**

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### MODEL | SYS-5018A-TN7B | SYS-5018D-MHR7N4P | SYS-5018D-LN4T
---|---|---|---
**Processor Support** | Intel® Atom™ C2758 Processor, SoC 8-Core, 20W, 2.4GHz | Intel® Xeon® Processor D-1537, SoC 8 Core, 35W, 1.7-2.3GHz | Intel® Pentium® Processor D1508, SoC 8 Core, 35W, 1.7-2.3GHz
**Key Applications** | - Network Security Appliance  
- FireWall Applications  
- Virtualization Server  
- Embedded Applications | - Hyper-Converged Appliance  
- Enterprise Server  
- Edge Computing Server  
- Private Cloud Server  
- Virtualization Server | - Compact Network Appliance  
- FireWall Applications  
- Software Defined WAN
**Outstanding Features** | - 7xGbE LAN with 3-pair bypass  
- Embedded long-life | - 4 Hot Swap SATA3/5AS2 Drive Bays  
- Dual SFP+ and Dual GbE  
- Low Power Xeon® D SoC 8 Core with Dual 10GbE  
- Remote management via dedicated IPMI BMC  
- 400W high-efficiency redundant power supply  
- 7 year life cycle | - Dual 10GbE SFP+ and Dual GbE  
- Short depth (less than 10 depth)  
- Intel® Xeon® processor D-1508, Dual-Core, 25W  
- Up to 128GB ECC RDIMM DDR4-2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets  
- 4 x 2.5" SATA3 HDD, and 1 M.2 (M key 2242/80/110 PCIe 3.0x4)
**Serverboard** | SUPER® A1SRM-LN7F-2758 | SUPER® X10SDV-7TP4F | SUPER® X10SDV-2C-TP4F
**Chipset** | System on Chip | System on Chip | System on Chip
**System Memory (Max.)** | 64GB Unbuffered ECC/non-ECC, DDR3-1600MHz in 4 DIMM slots | Up to 128GB Registered ECC RDIMM, DDR4-2133MHz | Up to 128GB Registered ECC RDIMM, DDR4-2133MHz
**Expansion Slots** | 1 PCI-E 2.0 x4 (in x8) slot | 4 SATA3 support RAID 0,1,5,10(RSTe) or 4 SAS2 (No RAID support and require one optional cable, CBL-SAST-0811) | 1 PCI-E 3.0 x8; M.2 PCI-E 3.0x4, M Key 2242/2280/22110, Mini-PCI-E with mSATA support
**Onboard Storage Controller** | SoC controller for 4 SATA2 (3 Gbps) ports; 2 SATA3 ports(6 Gbps) | SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10 RSTe; | SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10 RSTe;
**Connectivity** | 7x 1GBe (3-pair bypass), 1 dedicated IPMI LAN (share with one LAN), 4x USB2.0, 1 Serial Port (RJ45) | 2x 1GBe LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 US30.0, 1 US80.0 Type A | 2x 1GBe LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 US30.0
**VGA/Audio** | VGA via BMC | VGA via BMC | VGA via BMC
**Management** | IPMI2.0; NMI; SUM; SuperDoctor® 5; Watchdog | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog
**Drive Bays** | 1x 3.5" fixed drive bay or 4x2.5" drive bay with optional bracket | 4x 3.5" hot-swap SATA3/5AS2(require one optional cable, CBL-SAST-0811) | 1x 3.5" fixed drive bay or up to 4x 2.5" fixed drive bay
**Peripheral Bays** | N/A | 1 slim DVD-ROM drive bay | N/A
**Power Supply** | 200W Multi-output 80Plus Gold PWS | Redundant 400W Platinum Level power supplies, PWS-407P-1R | 200W Low-Noise AC-DC power supply with PFC
**Cooling System** | 2x 4cm counter-rotating PWM fan, support up to three system fans | 3x 40x28mm PWM fan for CPU and Memories; 1x 40x28mm PWM fan for AOC cooling | 1x 40x28mm 13K RPM 4-PIN PWM FAN
**Form Factor** | Short Depth: 1U Rack Mount; Enclosure: 437 x 43 x 287mm (17.2" x 1.7" x 11.3")  
Package: 645 x 155 x 503mm (25.4" x 6.1" x 19.8")  
Gross Weight: 12.50lbs (5.69kg)  
Net Weight: 8.45lbs (3.83kg) | 1U Rackmount; Enclosure: 437 x 43 x 503mm (17.2" x 1.7" x 19.8")  
Package: 610 x 216 x 749mm (24" x 8.5" x 29.5")  
Gross Weight: 33lbs (14.97kg)  
Net Weight: 20lbs (9.07kg) | 1U Short Depth Rackmount; Enclosure: 437 x 43 x 249mm (17.2" x 1.7" x 9.8")  
Package: 655 x 155 x 465mm (25.8" x 6.1" x 18.3")  
Gross Weight: 12lbs (5.44kg)  
Net Weight: 8lbs (3.63kg)

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*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
## Embedded/IoT Building Block Solutions - October 2021

### Intel® Xeon® D-1537 SoC, 4-Core

- **Model**: SYS-5018D-FN8T
- **Processor Support**: Intel® Xeon® Processor D-1518, 4 Core, 35W, 2.2 GHz
- **Key Applications**: Networking Appliance, Network Security Appliance, FireWall Applications, Embedded Applications, Virtualization Applications, Virtualization Server
- **Outstanding Features**: Dual SFP+, Short Depth (less than 10 inch), Low Power Xeon® D SoC, 4 Core

### Intel® Xeon® D-1587 SoC, 16-Core

- **Model**: SYS-5018D-FN4T
- **Processor Support**: Intel® Xeon® Processor D-1587, 16 Core, 65W 1.7-2.3GHz
- **Key Applications**: Network Security Appliance, FireWall Applications, Virtualization, vCPU
- **Outstanding Features**: 400W Redundant Platinum PSU, 1x Low Profile PCI-E 3.0 x8 and 1x M.2 PCI-E 3.0 x4, MiniPCI-E with mSata, 2x 2.5" HDD, 8 LAN w/ 2x10G SPF+ and 6x1Gbe LAN

### SYS-1018D-FRN8T
- **Processor Support**: Intel® Xeon® Processor D-1587, 16 Core, 65W 1.7-2.3GHz
- **Key Applications**: Network Security Appliance, FireWall Applications, Virtualization, vCPU
- **Outstanding Features**: 400W Redundant Platinum PSU, 1x Low Profile PCI-E 3.0 x8 and 1x M.2 PCI-E 3.0 x4, MiniPCI-E with mSata, 2x 2.5" HDD, 8 LAN w/ 2x10G SPF+ and 6x1Gbe LAN

### SYS-1018D-FN4T
- **Processor Support**: Intel® Xeon® Processor D-1587, 16 Core, 65W 1.7-2.3GHz
- **Key Applications**: Network Security Appliance, FireWall Applications, Virtualization, vCPU
- **Outstanding Features**: 400W Redundant Platinum PSU, 1x Low Profile PCI-E 3.0 x8 and 1x M.2 PCI-E 3.0 x4, MiniPCI-E with mSata, 2x 2.5" HDD, 8 LAN w/ 2x10G SPF+ and 6x1Gbe LAN

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*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## Low-Power Front I/O Network Appliance for Security Atom™ Appliance

### Intel Atom® C2758, 8-Core Rangeley

**MODEL** | **SYS-5018A-TN4** | **SYS-5018A-FTN4** | **SYS-5018A-MHN4**
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Processor Support | Intel® Atom® C2750 | Intel® Atom™ 2758 SoC, 8C, 22nm (Rangeley, 20W) | Intel® Atom™ Processor C2758, SoC 8-Core, 20W, 2.4GHz
Key Applications | • Application and data serving, Automation, Cloud and Virtualization needs | • Cloud and Virtualization needs | • Cloud and Virtualization needs
 | • Corporate-WINS, DNS, Print, Login, e-Business, Embedded Applications, Hosting & Application delivery, Industrial Automation & Control, NAS Servers, Security | • Embedded Applications | • Cloud Computing
 | • SOHO Entry-Level Server, Web Server, Web Server for Small and Medium Business | • Gateway, provisioning servers | • Data Center
 | • Intel® Atom® C2750 | • Industrial Automation & Control | • Data Warehouse
 | • Security | • Small and Medium Business | • Database Applications
 | • SOHO Entry-Level Server | • e-Business | • e-Business

Outstanding Features | • 1 PCI-E x8 slot | • 4x 2.5” SATA drives | • 1 PCI-E x8 slot
 | • 200W Low-Noise power supply | • Compact size chassis, cost-effective UP platform | • 4x 2.5” SATA drives
 | • 1 PCI Express 2.0 x8 on riser | • IPMI 2.0 + KVM with dedicated LAN | • Optimized for Power Saving and Improved Cooling
 | • 1 PCI-E x8 slot | • Optimized for small business | • 4 hot-swap 3.5” SATA/SAS Drive Bays

Serverboard | SUPER® A1SAi-2750F | SUPER® A1SRi-2758F | SUPER® A1SRM-2758F

Chipset | System on Chip | System on Chip chipset | System on Chip

System Memory (Max.) | Up to 32GB ECC DDR3 1600/1333MHz SODIMM in 4 DIMM slots | Up to 32GB DDR3-1600 Un-buffered ECC SODIMM | Up to 64GB ECC/non-ECC UDIMM, DDR3-1600MHz in 4 sockets

Expansion Slots | 1x PCI-E 2.0 x8 slot via riser card | 1 PCI Express 2.0 x8 on riser | 1 PCI-E 2.0 x8(FH,HL)

Onboard Storage Controller | SoC controller for 4 SATA2 (3Gbps) ports; 2 SATA3 (6Gbps) | N/A | SoC controller for 4 SATA2 (3Gbps); 2 SATA3 (6 Gbps)

Price Connectivity | 4x RJ45 Gigabit Ethernet LAN ports 1x RJ45 Dedicated IPMI LAN port 4x USB 3.0 ports (2 rear, 1 Type A, 1 via header) 2x USB 2.0 ports (2 rear) 2x Fast UART 16550 Serial Port (1 rear, 1 via header) | 4x RJ45 Gigabit Ethernet LAN ports 1x RJ45 Dedicated IPMI LAN port 4x USB 3.0 ports (2 rear, 1 Type A, 1 via header) 2x USB 2.0 ports (2 rear) 2x Fast UART 16550 Serial Port (1 rear, 1 via header) 1x SATA DOM (Disk on Module) power connector | 4x 1GbE LAN, 1 dedicate IPMI LAN, 4 USB2.0, 1 serial port(DB9)

VGA/Audio | AST2400 VGA 4x USB3.0, 2 x USB2.0 | BMC integrated Aspeed AST2400, 1x VGA port | VGA via BMC

Management | IPMI 2.0 + KVM with dedicated LAN, SuperDoctor® 5, Watchdog | IPMI 2.0 on dedicated LAN port | IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog

Drive Bays | 2x 3.5” fixed HDD (no expansion slot), or 1x 3.5” fixed HDD (low profile slot only), or 4x 2.5” fixed HDD (no expansion slot), or 2x 2.5: fixed HDD (full height and half length) | 2x 3.5” fixed SATA3 (opt 4x 2.5”) | 1x 3.5” fixed drive bay or up to 4x 2.5” fixed drive bay

Peripheral Bays | N/A | N/A | 1 slim DVD-ROM drive bay

Power Supply | 200W Low-Noise AC-DC power supply with PFC | 200W | 200W Low Noise AC-DC power supply with PFC

Cooling System | Built-in CPU heatsink; optional 40x28mm fan; 1x high-efficiency power supply with thermal control fan | 1x High-efficiency power supply with thermal control fan (optional, require mounting bracket) | 2x 4cm high performance PWM fan

Form Factor | Mini-1U Rackmount 437 x 43 x 249mm (17.2” x 1.7” x 9.8”) | 1U compact, less than 10” | 1U Rackmount; Enclosure: 437 x 43 x 504mm (17.2” x 1.7” x 19.85”) Package: 594 x 216 x 754mm (23.4” x 8.5” x 29.7”)

* Please check with your Supermicro sales representative and website for compatibility and configuration details
### Embedded/IoT Building Block Solutions - October 2021

**Compact Mini Tower**
- 3 Independent Displays
- Intel® Atom® C2758
- Intel® Xeon® D-1541, 8-Core, Rangeley

**Key Applications**
- Compact Cloud Server
- Database Processing & Storage
- High Performance NAS Servers
- Business Intelligence
- Security Appliance and Video Surveillance
- Web Server for Small and Medium Business

**Outstanding Features**
- Up to 4 Hot-Swap 3.5” SATA3 HDD and 2 internal 2.5” fixed HDD
- DP, HDMI and DVI-I: 3 independent displays
- 2x Gigabit LAN ports
- TPM 1.2 Headers
- Up to 16GB DDR3 non-ECC 1600MHz SODIMM
- 1x PCI-E 3.0 x16 slot
- 4x 3.5” SATA Hot Swap Tray and 2 x2.5” internal HDD bay
- Support up to 64G ECC SODIMM
- One low profile expansion slot for PCI-E2.0x8

**Serverboard**
- Super® X10SLV-Q
- Super® A1SRi-2758F
- Super® X10SDV-TLN4F

**Chipset**
- Intel® Q87 chipset
- System on Chip
- System on Chip

**System Memory (Max.)**
- 16 GB, DDR3-1600MHz non-ECC SODIMM in 2 sockets
- Up to 64GB DDR3 1600MHz ECC SODIMM in 4 DIMM sockets
- 128GB Registered ECC, DDR4-2133MHz 64GB Unbuffered ECC/non-ECC UDIMM in 4 DIMM slots

**Expansion Slots**
- 1x PCI-E 3.0 x16 slot 1x Mini-PCI-E w/ mSATA support
- PCI-E 2.0 x8
- 1 PCI-E 3.0 x16(Low Profile); 1 M.2 PCI-E 3.0x4 M Key 2242/2280

**Onboard Storage Controller**
- SoC controller for 4x SATA 3.0 ports (6Gbps) with RAID 0.1.5.10
- SoC controller for 4 SATA2 (3 Gbps) ports; 2 SATA3 (6 Gbps)
- SoC controller for 6 SATA3 (6 Gbps) ports

**Connectivity**
- 2x 1GbE LAN, 2 USB3.0, 2 USB2.0
- 4x 1GbE LAN, 1 dedicate IPMI LAN, 2 USB3.0, 2 USB2.0, 1 serial port(DB9)
- 2x 1GbE LAN, 2x 10GbE LAN, 1 dedicate IPMI LAN, 2 USB3.0(rear), 2 USB2.0(front)

**VGA/Audio**
- Intel® HD 4600 Graphics, 1 DisplayPort, 1 HDMI, 1 DVI-I, 3 Independent Displays
- VGA via BMC
- VGA via BMC

**Management**
- SuperDoctor* III Watch Dog NMI
- IPMI2.0; NMI; SuperDoctor V; Watch Dog

**Drive Bays**
- 4x 3.5” hot-swap SAS/SATA drive bay
- 4x 3.5” SATA Hot Swap drive bay and 2 x2.5” internal drive bay
- 4x 3.5” SATA Hot Swap drive bay and 2 x2.5” internal drive bay

**Peripheral Bays**
- 1 slim DVD-ROM drive bay (share with one 3.5” drive bay)
- 1 slim DVD-ROM drive bay (share with one 2.5” drive bay)

**Power Supply**
- No Redundant 1 Qty. PWS-251-1H
- 250W Flex ATX Multi-output Bronze Power Supply

**Cooling System**
- 1x 12cm rear exhaust fan, SNK-P0046A4 (optional)
- 1x 12cm rear exhaust fan
- 1x Active CPU cooler

**Form Factor**
- 210 x 240 x 279mm (8.27” x 9.45” x 11”)
- 210 x 240 x 279mm (8.27” x 9.45” x 11”)
- 210 x 240 x 279mm (8.27” x 9.45” x 11”)

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* Please check with your Supermicro sales representative and website for compatibility and configuration details
### Outstand Features

- 4x 3.5" SATA3 hot-swap drive bays
- 2x Gigabit LAN with AMT
- 7 year life cycle
- 6th/7th Generation Intel® Core i7, i5, i3, Pentium and Celeron Processor
- Remote management via IPMI or vPro
- 2x Gigabit LAN ports, HDMI/DVI-D/VGA, 3 independent displays
- Full Height and Full Length add on card support
- Power redundancy or BBP support
- Faster Transcoding for Web Streaming
- 4x SATA3(6Gbps) via C236; RAID 0, 1, 5, 10
- Intel® Iris Pro Graphics with 128M B of on-package in high performance graphics
- VHD, Media CODEC (HEVC, JPEG, VP8) and IPMI 2.0 (Shared LAN)
- Up to 18 AVC streams or 8 HEVC streams at 1080p 30FPS, or 2 HEVC streams at 4K 30FPS

### Serverboard

- SUPER® X11SSZ-F
- SUPER® X11SSZ-QF
- SUPER® X11SSV-M4F

### Chipset

- Intel® C236 chipset
- Intel® Q170 Express chipset
- System On Chip
- Intel® CM236 chipset

### System Memory (Max.)

- Up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
- Up to 64GB Unbuffered non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
- Up to 32GB ECC Unbuffered SO-DIMM DDR4 2133MHz; 2 DIMM slots
- 1x PCI-E 3.0 x16 1x M.2 (M key, NVMe)
- 1 Mini-PCI-E (mSATA support), 1 M Key
- 1 HDMI2.0, 1 DP1.2, 1 DVI-I, Intel® Iris Pro Graphics P580, 3 independent displays
- 1 HDMI2.0, 1 DP1.2, 1 DVI-I, Intel® Iris Pro Graphics P580.3 independent displays
- 2 DIMM slots

### Expansion Slots

- 1 PCI Express 3.0 x16 FH, HL slot
- 1 PCI-E 3.0 x16
- 1 PCI-E 3.0 x16
- 1x PCI-E 3.0 x16
- 1x PCI-E 3.0 x16

### Onboard Storage Controller

- Intel® C236 chipset
- Intel® Q170 Express controller for 2 SATA3 (6Gbps) ports; RAID 0, 1
- Intel® Q170 Express controller for 2 SATA3 (6Gbps) ports; RAID 0, 1
- Intel® Q170 Express controller for 2 SATA3 (6Gbps) ports; RAID 0, 1
- Intel® Q170 Express controller for 2 SATA3 (6Gbps) ports; RAID 0, 1
- Intel® Q170 Express controller for 2 SATA3 (6Gbps) ports; RAID 0, 1
- Intel® Q170 Express controller for 2 SATA3 (6Gbps) ports; RAID 0, 1
- Intel® Q170 Express controller for 2 SATA3 (6Gbps) ports; RAID 0, 1
- Intel® Q170 Express controller for 2 SATA3 (6Gbps) ports; RAID 0, 1

### Connectivity

- 4 USB 3.0 (2x rear), 9 USB 2.0 (2x rear)
- 1 USB 2.0 Type A
- 1x PCI-E 3.0 x4 (SATA support), M Key
- 2x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0
- 2x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0
- 2x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0
- 2x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0
- 2x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0
- 2x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0
- 2x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0

### VGA/Audio

- Intel® HD Graphics, Aspeed AST2400 BMC
- Intel® HD Graphics, Aspeed AST2400 BMC
- Intel® HD Graphics, Aspeed AST2400 BMC
- Intel® HD Graphics, Aspeed AST2400 BMC
- Intel® HD Graphics, Aspeed AST2400 BMC
- Intel® HD Graphics, Aspeed AST2400 BMC
- Intel® HD Graphics, Aspeed AST2400 BMC
- Intel® HD Graphics, Aspeed AST2400 BMC
- Intel® HD Graphics, Aspeed AST2400 BMC

### Management

- AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, vPro, Watchdog
- AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, vPro, Watchdog
- AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, vPro, Watchdog
- AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, vPro, Watchdog
- AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, vPro, Watchdog
- AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, vPro, Watchdog
- AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, vPro, Watchdog
- AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, vPro, Watchdog

### Drive Bays

- 4x 3.5” hot-swap SAS/SATA
- 4x 3.5” hot-swap SAS/SATA
- 4x 3.5” hot-swap SAS/SATA
- 4x 3.5” hot-swap SAS/SATA

### Peripheral Bays

- 1x Slim DVD-ROM Drive(option)
- 1x Slim DVD-ROM Drive(option)
- 1x Slim DVD-ROM Drive(option)
- 1x Slim DVD-ROM Drive(option)

### Power Supply

- 1U 350W Multi-output power supply Platinum level
- 1U 350W Multi-output power supply Platinum level
- 1U 350W Multi-output power supply Platinum level
- 1U 350W Multi-output power supply Platinum level

### Cooling System

- 4x 40x28mm PWM fan; 2x 40x28mm PWM fan(option)
- 4x 40x28mm PWM fan; 2x 40x28mm PWM fan(option)
- 4x 40x28mm PWM fan; 2x 40x28mm PWM fan(option)
- 4x 40x28mm PWM fan; 2x 40x28mm PWM fan(option)

### Form Factor

- 437 x 43 x 503mm (17.2” x 1.7” x 19.85”)
- 437 x 43 x 503mm (17.2” x 1.7” x 19.85”)
- 437 x 43 x 503mm (17.2” x 1.7” x 19.85”)
- 437 x 43 x 503mm (17.2” x 1.7” x 19.85”)

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* Please check with your Supermicro sales representative and website for compatibility and configuration details.
## Model Specifications

### SYS-1028R-MCT

- **Processor Support**: Dual Intel® Xeon® Processor E5-2600 v4/v3 product families supported; QPI up to 9.6GT/s
- **Key Applications**: Data Center, Web Server, Enterprise Server, Managed Hosting
- **Outstanding Features**: IPMI 2.0 + KVM with dedicated LAN
- **Serverboard**: SUPER X10DRL-CT
- **Chipset**: Intel® C612 Chipset
- **System Memory (Max.)**: Up to 1TB ECC 3DS LRDIMM or RDIMM
- **Management**: IPMI 2.0; NMI
- **Drive Bays**: 8x 2.5” hot-swap SATA/SAS drive bays
- **Connectivity**: 10GbE, SAS3, Redundant Power
- **Peripheral Bays**: 1 slot for SAS controller mezzanine
- **Power Supply**: MCT - 600W Platinum Level high-efficiency power supply, MCTR - Redundant 600W Platinum Level high-efficiency power supplies
- **Cooling System**: 4x 4cm high performance PWM fans with optimal fan speed control
- **Form Factor**: Short-Depth, Space-saving design

### SYS-1028R-TDW

- **Processor Support**: Dual Intel® Xeon® Processor E5-2600 v4/v3 product families supported; QPI up to 9.6GT/s
- **Key Applications**: Data Center, Cloud and Virtualization needs, Hosting & Application delivery, Database Processing & Storage, Simulation & Automation
- **Outstanding Features**: 600W Platinum Level high-efficiency power supply, IPMI 2.0 + KVM with Dedicated LAN, Up to 3 add-on cards
- **Serverboard**: SUPER X10DDW-i
- **Chipset**: Intel® C612 Chipset
- **System Memory (Max.)**: Up to 16 DIMM DDR4-2133MHz
- **Management**: IPMI2.0; NMI; SuperDoctor V; Watchdog
- **Drive Bays**: 8x 2.5” hot-swap SATA/HDD drive bays
- **Connectivity**: Quad LAN with SoC, Quad LAN with SoC
- **Peripheral Bays**: 1 slot for SAS controller mezzanine
- **Power Supply**: MCT - 600W Platinum Level high-efficiency power supply, MCTR - Redundant 600W Platinum Level high-efficiency power supplies
- **Cooling System**: 2x 4cm heavy duty counter-rotating fans
- **Form Factor**: Short-Depth, Space-saving design

### SYS-5018A-MLHN4

- **Processor Support**: Intel® Atom® C2550
- **Key Applications**: Data Center, Cloud and Virtualization needs, High End Enterprise Server, Server Appliance, Virtualization Server, Web Server, Server for Small and Medium Business
- **Outstanding Features**: 1 PCI-E x8 slot, 2 Internal 3.5” SATA drive bays, 200W low-power supply
- **Serverboard**: SUPER A1SAM-2550F
- **Chipset**: System on Chip chipset
- **System Memory (Max.)**: Up to 2TB ECC Unbuffered Non-ECC or ECC
- **Management**: IPMI2.0; NMI; SuperDoctor V; Watchdog
- **Drive Bays**: 4x 2.5” internal drive bays
- **Connectivity**: Quad LAN with SoC
- **Peripheral Bays**: N/A
- **Power Supply**: 2x 10GBase-T Ports; RAID 2 SATA3 (6Gbps) ports; RAID 2 SATA3 (6Gbps)
- **Cooling System**: 1x 10cm 3,800 RPM PWM blower fan
- **Form Factor**: Short-Depth, Space-saving design

### SYS-5018A-MLTN4

- **Processor Support**: Intel® Atom® C2550
- **Outstanding Features**: 1 PCI-E x8 slot, 2 Internal 3.5” SATA drive bays, 200W low-power supply
- **Serverboard**: SUPER A1SAM-2550F
- **Chipset**: System on Chip chipset
- **System Memory (Max.)**: Up to 2TB ECC 3DS LRDIMM or RDIMM DDR4-2400MHz in 16 DIMM slots
- **Management**: IPMI2.0; NMI; SuperDoctor V; Watchdog
- **Drive Bays**: 8x 2.5” hot-swap SATA/SAS drive bays
- **Peripheral Bays**: N/A
- **Power Supply**: 200W Low Noise AC-DC power supply with PFC
- **Cooling System**: 1x 10cm 3,800 RPM PWM blower fan
- **Form Factor**: Short-Depth, Space-saving design
Embedded Chassis Selection Guide

**Fanless/IoT Gateway**
Fanless & robust design  
Low power consumption  
Wide-range working temperature & voltage

**Compact Mini Tower**
Support up to 80W TDP processor  
Hot-swap 3.5” HDD for RAID  
Low profile expansion slot for diversified application

**IPC**
Rackmount with expansion capabilities  
Flexible Front I/O  
Up to 11 PCI-E Expansion slots

**1U Rack System**
1U Rackmount with advanced cooling design  
Flexible I/O at front and rear  
Remote Management & FW upgrade via IPMI 2.0

---

**Front Bezel/LCD**

<table>
<thead>
<tr>
<th>Model</th>
<th>Feature</th>
<th>Form Factor/Chassis</th>
<th>MCP-220-00095-0B</th>
<th>MCP-220-00095-0B</th>
<th>MCP-210-00007-01</th>
<th>SCPTFB-813LB</th>
<th>MCP-210-82502-0B</th>
<th>MCP-210-84201-0B</th>
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</thead>
<tbody>
<tr>
<td>Feature</td>
<td>LCD display kits</td>
<td>5.25” bay</td>
<td>3.5” HDD bay</td>
<td>SCB13/813M series</td>
<td>SCB18/813M series</td>
<td>SCB8M series</td>
<td>SCB42 series</td>
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<tr>
<td>Form Factor/Chassis</td>
<td></td>
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**Chassis**

<table>
<thead>
<tr>
<th>Model</th>
<th>SCE102</th>
<th>SCE301</th>
<th>SCE403IF</th>
<th>SCE300-LED</th>
<th>SCE300</th>
<th>SCT101F</th>
<th>SCT101S</th>
<th>SCT101i</th>
<th>SCT101f</th>
<th>SCT721TQ-250B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Factor/Chassis</td>
<td>3.5” SBC/Pico-ITX</td>
<td>Compact Box</td>
<td>Wall-Mount</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Mini Tower</td>
</tr>
<tr>
<td>Computer Motherboard</td>
<td>3.5” SBC, PICO-ITX</td>
<td>Flex-ATX 9.0” x 7.25”</td>
<td>Flex-ATX 9.0” x 7.25”</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1x 2.5” fixed drive bay</td>
<td>4x 2.5” fixed drive bay</td>
<td>1x 2.5” fixed drive bay</td>
<td>1x 2.5” fixed drive bay</td>
<td>1x 2.5” fixed drive bay</td>
<td>1x 2.5” fixed drive bay</td>
<td>1x 2.5” fixed drive bay</td>
<td>1x 2.5” fixed drive bay</td>
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<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>Onboard Mini PCI-E or M.2</td>
<td>3x low profile, half length</td>
<td>3x low profile, half length</td>
<td>3x low profile, half length</td>
<td>3x low profile, half length</td>
<td>3x low profile, half length</td>
<td>3x low profile, half length</td>
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</tr>
<tr>
<td>Power Supply</td>
<td>40W Power Adapter</td>
<td>60W/90W DC Power Adapter</td>
<td>60W/90W DC Power Adapter</td>
<td>60W/90W DC Power Adapter</td>
<td>60W/90W DC Power Adapter</td>
<td>60W/90W DC Power Adapter</td>
<td>60W/90W DC Power Adapter</td>
<td>60W/90W DC Power Adapter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions (WxDxH)</td>
<td>7.48” x 4.72” x 3.15”</td>
<td>196 x 144 x 75mm</td>
<td>10.65” x 2.56” x 3.15”</td>
<td>265 x 64 x 75mm</td>
<td>10.65” x 2.56” x 3.15”</td>
<td>265 x 64 x 75mm</td>
<td>7.68” x 2.68” x 3.15”</td>
<td>195 x 195 x 43mm</td>
<td>7.68” x 2.68” x 3.15”</td>
<td>195 x 195 x 43mm</td>
</tr>
</tbody>
</table>

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**Compact Dual Node System Trays**
Rackmount kit available for  
Xeon® D and Denvertor Systems  
Mounting kits for Single Node

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**Embedded/IoT Building Block Solutions - October 2021**
### Embedded/IoT Building Block Solutions - October 2021

#### Model SC504-203B
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: Flex ATX, Mini-ITX
- **CPU Support**: Single processor
- **Drive Bays**: 2 x Fixed 3.5" or 4 x Fixed 2.5" SATA
- **Power Supply**: 200W High-efficiency
- **Dimensions (WxDxH)**: 17.2"x9.8"x1.7"

#### Model SC505-203B
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: Flex ATX, Mini-ITX
- **CPU Support**: Single processor
- **Drive Bays**: 2 x Fixed 3.5" or 4 x Fixed 2.5" SATA
- **Power Supply**: 200W High-efficiency
- **Dimensions (WxDxH)**: 17.2"x9.8"x1.7"

#### Model SC510T-203B
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: MicroATX
- **CPU Support**: Single processor
- **Drive Bays**: 2 x hot-swap 2.5" SATA
- **Power Supply**: Up to 4x Fixed 2.5" SATA
- **Dimensions (WxDxH)**: 17.2"x11.3"x1.7"

#### Model SC510-203B
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: MicroATX
- **CPU Support**: Single processor
- **Drive Bays**: 2 x hot-swap 2.5" SATA
- **Power Supply**: 200W Power Supply
- **Dimensions (WxDxH)**: 17.2"x9.8"x1.7"

#### Model SC512L-260B-LCD
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: MicroATX
- **CPU Support**: Single processor
- **Drive Bays**: 1 x Fixed 2.5" or 3.5" SATA
- **Power Supply**: 260W Power Supply
- **Dimensions (WxDxH)**: 16.8"x14"x1.7"

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#### Model SC513BTQC-350B
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: ATX, MicroATX
- **CPU Support**: Dual and single processors
- **Drive Bays**: 2 x 2.5" hot-swap drive bay
- **Power Supply**: 1U 350W Multi-output
- **Dimensions (WxDxH)**: 17.2"x15"x1.7"

#### Model SC512F-350B
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: ATX, MicroATX
- **CPU Support**: Dual and single processors
- **Drive Bays**: 2 x 2.5" hot-swap drive bay
- **Power Supply**: 1U 350W Multi-output
- **Dimensions (WxDxH)**: 17.2"x15"x1.7"

#### Model SC513TQC-505WB
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: ATX, MicroATX
- **CPU Support**: Dual and single processors
- **Drive Bays**: 2 x 2.5" hot-swap drive bay
- **Power Supply**: 1U 500W Multi-output
- **Dimensions (WxDxH)**: 17.2"x15"x1.7"

#### Model SC514-R400W
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: ATX, MicroATX/WIO
- **CPU Support**: Dual and single processors
- **Drive Bays**: 2 x 2.5" hot-swap drive bay
- **Power Supply**: 400W (1+1) Redundant
- **Dimensions (WxDxH)**: 17.2"x15"x1.7"

#### Model SC514-S05
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: ATX, MicroATX/WIO
- **CPU Support**: Dual and single processors
- **Drive Bays**: 2 x 2.5" hot-swap drive bay
- **Power Supply**: 500W High-efficiency
- **Dimensions (WxDxH)**: 17.2"x15"x1.7"

#### Model SC515-R407
- **Form Factor**: 1U Rackmount
- **Compatible Motherboard**: ATX, MicroATX/WIO
- **CPU Support**: Dual and single processors
- **Drive Bays**: 2 x 2.5" hot-swap drive bay
- **Power Supply**: 400W (1+1) Redundant
- **Dimensions (WxDxH)**: 17.2"x15"x1.7"

---

#### Model SC213XAC-R1K05LP
- **Form Factor**: 2U Rackmount
- **Compatible Motherboard**: EE-ATX
- **CPU Support**: Dual and single processors
- **Drive Bays**: 16x 2.5" hot-swap SAS3/SATA
- **Power Supply**: 80 PLUS® Platinum Certified
- **Dimensions (WxDxH)**: 17.2"x16.9"x1.7"

#### Model SC825MBTQC-R802LPB
- **Form Factor**: 2U Rackmount
- **Compatible Motherboard**: E-ATX
- **CPU Support**: Dual and single processors
- **Drive Bays**: 16x 2.5" hot-swap SAS3/SATA
- **Power Supply**: 80 PLUS® Platinum Certified
- **Dimensions (WxDxH)**: 17.2"x16.9"x1.7"

#### Model SC825XTQC-R1K05
- **Form Factor**: 2U Rackmount
- **Compatible Motherboard**: EE-ATX
- **CPU Support**: Dual and single processors
- **Drive Bays**: 16x 2.5" hot-swap SAS3/SATA
- **Power Supply**: 80 PLUS® Platinum Certified
- **Dimensions (WxDxH)**: 17.2"x16.9"x1.7"

#### Model SC835TQC-R802B
- **Form Factor**: 3U Rackmount
- **Compatible Motherboard**: E-ATX
- **CPU Support**: Dual and single processors
- **Drive Bays**: 8x 3.5" hot-swap SAS/SATA
- **Power Supply**: 800W Redundant
- **Dimensions (WxDxH)**: 17.2"x16.9"x1.7"

#### Model SC842XTQC-R804B
- **Form Factor**: 4U Rackmount
- **Compatible Motherboard**: E-ATX
- **CPU Support**: Dual and single processors
- **Drive Bays**: 8x 3.5" hot-swap SAS/SATA
- **Power Supply**: 800W Redundant
- **Dimensions (WxDxH)**: 17.2"x16.9"x1.7"
## NEW! X12 UP Serverboards

**3rd Gen Intel® Xeon® Scalable processors Supported**

### MODEL

<table>
<thead>
<tr>
<th>Processor</th>
<th>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports, up to 270W TDP</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Chipset</th>
<th>Intel® C621A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>ATX, 12” x 10” (30.48cm x 25.4cm)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Optimized Chassis</th>
<th>813MF2TQC-505CB 813MF2TQC4-R407CB 116AC10-R860CB-N10</th>
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</table>

<table>
<thead>
<tr>
<th>Memory Capacity &amp; Slots</th>
<th>Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz Up to 2TB Intel® Optane™ Persistent Memory, in 8 DIMM slots</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Expansion Slots</th>
<th>1 PCI-E 4.0 x16, 2 PCI-E 4.0 NVMe x8 Internal Port(s) M.2 Interface: 2 SATA/PCI-E 3.0 x4 M.2 Form Factor: 2280/22110 M.2 Key: M-Key</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Onboard RAID Controller</th>
<th>Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Onboard LAN</th>
<th>Dual LAN with Intel® i350 Gigabit Ethernet Controller</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Onboard VGA</th>
<th>1 VGA port, ASPEED AST2600 BMC</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>USB Ports</th>
<th>6 USB 2.0 ports (2 rear + 4 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Other Onboard I/O Devices</th>
<th>TPM Header 2 COM Ports (1 rear, 1 header)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Manageability</th>
<th>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SUM, SuperDoctor® 5, Watchdog</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>PC Health Monitoring</th>
<th>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Other Features</th>
<th>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, RoT, UID, WOL</th>
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</table>

<table>
<thead>
<tr>
<th>BIOS</th>
<th>AMI UEFI</th>
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### 3rd Gen Intel® Xeon® Scalable processors Supported

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X12SPL-F</th>
<th>X12SPL-LN4F</th>
<th>X12SPW-F</th>
<th>X12SPW-TF</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports, up to 270W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports, up to 270W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports, up to 270W TDP</td>
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</tr>
<tr>
<td>Chipset</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td>Form Factor</td>
<td>ATX, 12.1&quot; x 10&quot; (30.73cm x 25.4cm)</td>
<td>ATX, 12.1&quot; x 10&quot; (30.73cm x 25.4cm)</td>
<td>Proprietary WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>Proprietary WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>813MF270Q-505CB 514-505</td>
<td>813MF270Q-505CB 514-505</td>
<td>116AC10-R706WB3 813MF270Q-505CB 514-505</td>
<td>116AC10-R706WB3 813MF270Q-505CB 514-505</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz; up to 27B 3DS ECC LRDIMM, DDR4-3200MHz</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCI-E 4.0 x8, 1 PCI-E 4.0 x16, 1 PCI-E 4.0 x8 (in x16 slot) 3 PCI-E 3.0 x8</td>
<td>2 PCI-E 4.0 x8, 1 PCI-E 4.0 x16, 1 PCI-E 4.0 x8 (in x16 slot) 3 PCI-E 3.0 x8</td>
<td>1 PCI-E 4.0 x16 Right Riser Slot, 1 PCI-E 4.0 x32 Left Riser Slot, 4 PCI-E 4.0 NVMe x4 Internal Port(s)</td>
<td>M.2 Interface: PCI-E 3.0 x4 and SATA</td>
</tr>
<tr>
<td>M.2 Interface:</td>
<td>1 SATA/PCI-E 3.0 x4 M.2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>M.2 Interface: 1 SATA/PCI-E 3.0 x4 M.2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>M.2 Interface: PCI-E 3.0 x4 and SATA</td>
<td>M.2 Form Factor: 2280, 22110 M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
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</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Quad LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with 1GbE with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with 10GbE with Intel® X550</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
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<tr>
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<td>6 USB 2.0 ports (2 rear + 4 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM Header 1 COM Port (1 header)</td>
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<td>2 ports SuperDOM</td>
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<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, RoW, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, RoHS, UID, WOL</td>
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<tr>
<td>Other Features</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, RoHS, UID, WOL</td>
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<tr>
<td>MODEL</td>
<td>X12STW-TF</td>
<td>X12STH-F</td>
<td>X12STH-LN4F</td>
<td>X12STH-SYS</td>
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<tr>
<td>Processor</td>
<td>Intel® C256</td>
<td>Intel® C256</td>
<td>Intel® C256</td>
<td>Intel® C256</td>
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<tr>
<td>Chipset</td>
<td>Proprietary WIO</td>
<td>Micro-ATA</td>
<td>1 PCI-E 4.0 x8</td>
<td>1 PCI-E 4.0 x8</td>
</tr>
<tr>
<td>Form Factor</td>
<td>WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>Micro-ATA, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>1 PCI-E 4.0 x8</td>
<td>1 PCI-E 4.0 x8</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-3200MHz, in 4 DIMM slots</td>
<td>Up to 128GB DDR4 ECC UDIMM, DDR4-3200MHz, in 4 DIMM slots</td>
<td>1 PCI-E 4.0 x8</td>
<td>1 PCI-E 4.0 x8</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C252 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with 1GbE with Intel® X210 Gigabit Ethernet Controller</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>-TF: Dual LAN with Intel® X550 10GBase-T Ethernet Controller</td>
<td>-TF: Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>-LN4F: Quad LAN with Intel® Ethernet Controller I210-AT</td>
<td>Intel® C252 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA D-Sub Connector port, ASPEED AST2600 BMC</td>
<td>Intel® C252 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers)</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
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<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +12V standby, 6-fan status, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
<td>+12V, +3.3V, +5V, +12V standby, 6-fan status, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 4-fan status, Chipset Voltage, Memory Voltages, Monitors CPU voltages, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 4-fan status, Chipset Voltage, Memory Voltages, Monitors CPU voltages, VBAT</td>
</tr>
<tr>
<td>BIOS</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
</tr>
<tr>
<td>ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID</td>
<td>ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID</td>
<td>ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID</td>
<td>ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID</td>
<td>ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID</td>
</tr>
</tbody>
</table>
## Embedded Ready

### Dual 10GBe + Quad 1GBe

**MODEL** X12SPM-LN4F

- **Processor**: 3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP
- **Chipset**: Intel® C621A
- **Form Factor**: microATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Optimized Chassis**: 813MF2TQC-505CB 514-S05 113MFAC2-605CB 113MFAC2-R404CB 813MF2TQC4-R407CB 515-S05 SCLA2661C4-R609LP
- **Memory Capacity & Slots**: Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
- **Expansion Slots**: 1 PCI-E 4.0 x8, 2 PCI-E 4.0 x4, 4 PCI-E 4.0 NVMe x4 Internal Port(s)
- **Onboard RAID Controller**: Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Quad LAN with 1GbE with Intel® i350-AM4 Dual LAN with 10GbE-T with Intel® X550
- **Onboard VGA**: 1 VGA port, ASPEED AST2600 BMC
- **USB Ports**: 6 USB 2.0 ports (2 rear + 4 via headers)
- **Other Onboard Devices**: 2 ports SuperDOM TPM Header 1 COM Port (1 header)
- **Manageability**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.8V, +12V, +3.3V, +5V standby, 3.3V standby, 5-pin status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT
- **ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL**
- **BIOS**: AMI UEFI

### Dual 10GBe

**MODEL** X12SPM-LN6TF

- **Processor**: 3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP
- **Chipset**: Intel® C621A
- **Form Factor**: microATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Optimized Chassis**: 813MF2TQC-505CB 514-S05 113MFAC2-605CB 113MFAC2-R404CB 813MF2TQC4-R407CB 515-S05 SCLA2661C4-R609LP
- **Memory Capacity & Slots**: Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
- **Expansion Slots**: 1 PCI-E 4.0 x8, 2 PCI-E 4.0 x4, 4 PCI-E 4.0 NVMe x4 Internal Port(s)
- **Onboard RAID Controller**: Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Quad LAN with 1GbE with Intel® i350-AM4 Dual LAN with 10GbE-T with Intel® X550
- **Onboard VGA**: 1 VGA port, ASPEED AST2600 BMC
- **USB Ports**: 6 USB 2.0 ports (2 rear + 4 via headers)
- **Other Onboard Devices**: 2 ports SuperDOM TPM Header 1 COM Port (1 header)
- **Manageability**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.8V, +12V, +3.3V, +5V standby, 3.3V standby, 5-pin status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT
- **ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL**
- **BIOS**: AMI UEFI

### Dual 10GBe

**MODEL** X12SPM-TF

- **Processor**: 3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP
- **Chipset**: Intel® C621A
- **Form Factor**: microATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Optimized Chassis**: 813MF2TQC-505CB 514-S05 113MFAC2-605CB 113MFAC2-R404CB 813MF2TQC4-R407CB 515-S05 SCLA2661C4-R609LP
- **Memory Capacity & Slots**: Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
- **Expansion Slots**: 1 PCI-E 4.0 x8, 2 PCI-E 4.0 x4, 4 PCI-E 4.0 NVMe x4 Internal Port(s)
- **Onboard RAID Controller**: Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Quad LAN with 1GbE with Intel® i350-AM4 Dual LAN with 10GbE-T with Intel® X550
- **Onboard VGA**: 1 VGA port, ASPEED AST2600 BMC
- **USB Ports**: 6 USB 2.0 ports (2 rear + 4 via headers)
- **Other Onboard Devices**: 2 ports SuperDOM TPM Header 1 COM Port (1 header)
- **Manageability**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.8V, +12V, +3.3V, +5V standby, 3.3V standby, 5-pin status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT
- **ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL**
- **BIOS**: AMI UEFI

### Dual 10GBe

**MODEL** X12SPI-TF

- **Processor**: 3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP
- **Chipset**: Intel® C621A
- **Form Factor**: microATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Optimized Chassis**: 813MF2TQC-505CB 514-S05 113MFAC2-605CB 113MFAC2-R404CB 813MF2TQC4-R407CB 515-S05 SCLA2661C4-R609LP
- **Memory Capacity & Slots**: Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
- **Expansion Slots**: 1 PCI-E 4.0 x8, 2 PCI-E 4.0 x4, 4 PCI-E 4.0 NVMe x4 Internal Port(s)
- **Onboard RAID Controller**: Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Quad LAN with 1GbE with Intel® i350-AM4 Dual LAN with 10GbE-T with Intel® X550
- **Onboard VGA**: 1 VGA port, ASPEED AST2600 BMC
- **USB Ports**: 6 USB 2.0 ports (2 rear + 4 via headers)
- **Other Onboard Devices**: 2 ports SuperDOM TPM Header 1 COM Port (1 header)
- **Manageability**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.8V, +12V, +3.3V, +5V standby, 3.3V standby, 5-pin status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT
- **ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL**
- **BIOS**: AMI UEFI
### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X12STN-C</th>
<th>X12STN-E</th>
<th>X12STN-H</th>
<th>X12STN-L</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Celeron® Processor 6305E; up to 15W TDP</td>
<td>11th Generation Intel® Core™ i7-1185G7 Processor; up to 12/15/28W TDP</td>
<td>11th Generation Intel® Core™ i7-1185G7 Processor; up to 12/15/28W TDP</td>
<td>11th Generation Intel® Core™ i3-1115G4 Processor; up to 12/15/28W TDP</td>
</tr>
<tr>
<td>Chipset Form Factor</td>
<td>System on Chip 3.5&quot; SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
<td>System on Chip 3.5&quot; SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
<td>System on Chip 3.5&quot; SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
<td>System on Chip 3.5&quot; SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>3 M.2 slots: B-Key, M-Key, E-Key</td>
<td>3 M.2 slots: B-Key, M-Key, E-Key</td>
<td>3 M.2 slots: B-Key, M-Key, E-Key</td>
<td>3 M.2 slots: B-Key, M-Key, E-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT 2.5G, TSN, industrial grade</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT 2.5G, TSN, industrial grade</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT 2.5G, TSN, industrial grade</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT 2.5G, TSN, industrial grade</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>2 HDMI ports, 1 48-bit LVDS port, 1 DP (Alt mode) port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 2.0b (max. resolution up to 4096x2160@60Hz), HDMI 1.4b (max. resolution up to 4096x2160@60Hz), DP (Alt mode, max. resolution up to 4096x2160@60Hz), Intel® UHD Graphics</td>
<td>2 HDMI ports, 1 48-bit LVDS port, 1 DP (Alt mode) port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 2.0b (max. resolution up to 4096x2160@60Hz), HDMI 1.4b (max. resolution up to 4096x2160@60Hz), DP (Alt mode, max. resolution up to 4096x2160@60Hz), Intel® UHD Graphics for 11th Gen Intel® Processor</td>
<td>2 HDMI ports, 1 48-bit LVDS port, 1 DP (Alt mode) port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 2.0b (max. resolution up to 4096x2160@60Hz), HDMI 1.4b (max. resolution up to 4096x2160@60Hz), DP (Alt mode, max. resolution up to 4096x2160@60Hz), Intel® UHD Graphics</td>
<td>2 HDMI ports, 1 48-bit LVDS port, 1 DP (Alt mode) port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 2.0b (max. resolution up to 4096x2160@60Hz), HDMI 1.4b (max. resolution up to 4096x2160@60Hz), DP (Alt mode, max. resolution up to 4096x2160@60Hz), Intel® UHD Graphics</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 3.2 Gen2 ports (3 Rear Type A + 1 Rear Type C)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td>Other Board I/O Devices</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 3.2 Gen2 ports (3 Rear Type A + 1 Rear Type C)</td>
<td>ALC 8885 HD Audio</td>
<td>4 USB 3.2 Gen2 ports (3 Rear Type A + 1 Rear Type C)</td>
</tr>
<tr>
<td>Other Features</td>
<td>SuperDoctor® 5, Watchdog -WOHS: w/o Heatsink +12V, +3.3V, +5V, 12V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VATB</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog -WOHS: w/o Heatsink +12V, +3.3V, +5V, 12V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VATB</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog -WOHS: w/o Heatsink +12V, +3.3V, +5V, 12V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VATB</td>
<td>8-pin 12.24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, System level control, System level control, System temperature, VATB</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

To view the full specifications and features, please refer to the full datasheet.
### Processor
- **X12SCQ**
  - 10th Generation Intel Core i9/i7/i5/i3 Processor
  - Single Socket LGA-1200 (Socket H5)
  - Supports CPU TDP up to 125W TDP
- **X12SCV-LVDS**
  - 10th Generation Intel Core i9/i7/i5/i3 Processor
  - Single Socket LGA-1200 (Socket H5)
  - Supports CPU TDP up to 65W TDP
- **X12SCV-W**
  - 10th Generation Intel Core i9/i7/i5/i3 Processor
  - Single Socket LGA-1200 (Socket H5)
  - Supports CPU TDP up to 65W TDP
- **X12SPZ-LN4F**
  - 3rd Gen Intel Xeon Scalable processors
  - Single Socket LGA-4189 (Socket P+)
  - Supports CPU TDP up to 270W TDP
- **X12SPZ-SPLN6F**
  - 3rd Gen Intel Xeon Scalable processors
  - Single Socket LGA-4189 (Socket P+)
  - Supports CPU TDP up to 270W TDP

### Chipset
- **X12SCQ**
  - Intel Q470E
  - microATX, 9.5" x 9.6" (24.38cm x 24.38cm)
- **X12SCV-LVDS**
  - Intel Q470E
  - UEFI AMI BIOS
- **X12SCV-W**
  - Intel Q470E
  - UEFI AMI BIOS
- **X12SPZ-LN4F**
  - Intel C621A
  - Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- **X12SPZ-SPLN6F**
  - Intel C621A
  - Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)

### Form Factor
- **X12SCQ**
  - Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- **X12SCV-LVDS**
  - Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- **X12SCV-W**
  - Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- **X12SPZ-LN4F**
  - Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- **X12SPZ-SPLN6F**
  - Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)

### Memory Capacity & Slots
- **X12SCQ**
  - Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots
- **X12SCV-LVDS**
  - Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots
- **X12SCV-W**
  - Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots
- **X12SPZ-LN4F**
  - Intel W480E controller for 2 SATA3 ports via OCuLink; RAID 0,1,5,10
- **X12SPZ-SPLN6F**
  - Intel W480E controller for 2 SATA3 ports via OCuLink; RAID 0,1,5,10

### Onboard RAID Controller
- **X12SCQ**
  - Intel Q470E controller for 6 RAID 0,1,5,10
- **X12SCV-LVDS**
  - Intel W480E controller for 4 SATA3 ports via OCuLink; RAID 0,1,5,10
- **X12SCV-W**
  - Intel W480E controller for 4 SATA3 ports via OCuLink; RAID 0,1,5,10
- **X12SPZ-LN4F**
  - Intel W480E controller for 4 SATA3 ports via OCuLink; RAID 0,1,5,10
- **X12SPZ-SPLN6F**
  - Intel W480E controller for 4 SATA3 ports via OCuLink; RAID 0,1,5,10

### Onboard VGA
- **X12SCQ**
  - 1 VGA port, 1 HDMI port, 1 DP (DisplayPort) port
  - Intel HD Graphics
- **X12SCV-LVDS**
  - 1 PCI-E x16 slots
  - 1 M.2 Key C port, 1 M.2 Key E port
  - Intel HD Graphics
- **X12SCV-W**
  - 1 PCI-E x16 slots
  - 1 M.2 Key E port
  - Intel HD Graphics
- **X12SPZ-LN4F**
  - Intel Quad LAN with Intel i350-AM4
  - Quad LAN with 1GbE
- **X12SPZ-SPLN6F**
  - Single LAN with Intel® Ethernet Controller Quad 1GbE LAN

### USB Ports
- **X12SCQ**
  - 4 USB 2.0 ports (via headers)
- **X12SCV-LVDS**
  - 4 USB 2.0 ports (via headers)
- **X12SCV-W**
  - 4 USB 2.0 ports (via headers)
- **X12SPZ-LN4F**
  - 4 USB 2.0 ports (via headers)
- **X12SPZ-SPLN6F**
  - 4 USB 2.0 ports (via headers)

### Other Onboard I/O Devices
- **X12SCQ**
  - 4 USB 2.0 ports (4 via headers)
- **X12SCV-LVDS**
  - 4 USB 2.0 ports (via headers)
- **X12SCV-W**
  - 4 USB 2.0 ports (via headers)
- **X12SPZ-LN4F**
  - 4 USB 2.0 ports (4 via headers)
- **X12SPZ-SPLN6F**
  - 4 USB 2.0 ports (4 via headers)

### Management
- **X12SCQ**
  - Intel Node Manager, IPMI
  - Intel Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support
- **X12SCV-LVDS**
  - Intel Node Manager, IPMI
  - Intel Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support
- **X12SCV-W**
  - Intel Node Manager, IPMI
  - Intel Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support
- **X12SPZ-LN4F**
  - Intel Node Manager, IPMI
  - Intel Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support
- **X12SPZ-SPLN6F**
  - Intel Node Manager, IPMI
  - Intel Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support

### BIOS
- **X12SCQ**
  - AMI UEFI
  - AMI UEFI
  - AMI UEFI
- **X12SCV-LVDS**
  - AMI UEFI
  - AMI UEFI
  - AMI UEFI
- **X12SCV-W**
  - AMI UEFI
  - AMI UEFI
  - AMI UEFI
- **X12SPZ-LN4F**
  - AMI UEFI
  - AMI UEFI
  - AMI UEFI
- **X12SPZ-SPLN6F**
  - AMI UEFI
  - AMI UEFI
  - AMI UEFI

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**3rd Gen Intel® Xeon® Scalable processors Supported**

**High Performance with up to 10 cores**

**High Performance with up to 10 cores**

**High Performance with up to 10 cores**

**Embedded, High Performance Quad 1GbE LAN**

**Embedded, High Performance Quad 1GbE LAN**

**New!**

**X12 UP Embedded**
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X12SCZ-TLN4F</th>
<th>X12SCZ-QF</th>
<th>X12SCZ-F</th>
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<tbody>
<tr>
<td>Processor</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/ Core™ i3 Processor, Intel® Xeon® W-1200 Processors Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports up to 125W TDP</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/ Core™ i3 Processor, Intel® Xeon® W-1200 Processors Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports up to 125W TDP</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/ Core™ i3 Processor, Intel® Xeon® W-1200 Processors Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports up to 125W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® W480E</td>
<td>Intel® Q470E</td>
<td>Intel® W480E</td>
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<tr>
<td>Form Factor</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>S10F-203B</td>
<td>S10F-203B</td>
<td>S10F-203B</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x4 (in x8 slot), 1 M.2 M-Key SATA/PCI-E 3.0 x4, 2280/22110 1 M.2 E-Key CNV/PCI-E 3.0 x1, 2230</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x4 (in x8 slot), 1 M.2 M-Key SATA/PCI-E 3.0 x4, 2280/22110 1 M.2 E-Key CNV/PCI-E 3.0 x1, 2230</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x4 (in x8 slot), 1 M.2 M-Key SATA/PCI-E 3.0 x4, 2280/22110 1 M.2 E-Key CNV/PCI-E 3.0 x1, 2230</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® W480E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® Q470E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® W480E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port, 2 DP++(Dual-Mode DisplayPort) ports, 1 DVI - D port, ASPEED AST2500 BMC, Intel® HD Graphics</td>
<td>1 VGA D-Sub Connector port, 2 DP++(Dual-Mode DisplayPort) ports, 1 DVI - D port, ASPEED AST2500 BMC, Intel® HD Graphics</td>
<td>1 VGA D-Sub Connector port, 2 DP++(Dual-Mode DisplayPort) ports, 1 DVI - D port, ASPEED AST2500 BMC, Intel® HD Graphics</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (6 via headers) 6 USB 3.2 Gen2 ports (4 Rear Type A, 2 via headers)</td>
<td>6 USB 2.0 ports (6 via headers) 6 USB 3.2 Gen2 ports (4 Rear Type A, 2 via headers)</td>
<td>6 USB 2.0 ports (6 via headers) 6 USB 3.2 Gen2 ports (4 Rear Type A, 2 via headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>ALC 8885 HD Audio TPM Header &amp; Chip both 1 COM Port (1 header)</td>
<td>ALC 8885 HD Audio TPM Header &amp; Chip both 1 COM Port (1 header)</td>
<td>ALC 8885 HD Audio TPM Header &amp; Chip both 1 COM Port (1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>AMT, IPMI (Intel Platform Management Interface) v2.0 with KVM support, SUM, SuperDoctor® 5, vPro, Watchdog</td>
<td>AMT, IPMI (Intel Platform Management Interface) v2.0 with KVM support, SUM, SuperDoctor® 5, vPro, Watchdog</td>
<td>AMT, IPMI (Intel Platform Management Interface) v2.0 with KVM support, SUM, SuperDoctor® 5, vPro, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 5 -fan status, Chassis intrusion header, CPU, Memory temperature, PCH temperature, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 5 -fan status, Chassis intrusion header, CPU, Memory, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 5 -fan status, Chassis intrusion header, CPU, Memory, PCH temperature, VBAT</td>
</tr>
<tr>
<td>Other Features</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Dual Cooling Zones, M.2 NGFF connector, RoHS, UID</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, M.2 NGFF connector, RoHS, UID</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, M.2 NGFF connector, RoHS, UID</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>
## X11 UP Serverboard

### Most Popular Entry-Class

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Memory Capacity</th>
<th>Expansion Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SCL-F</td>
<td>8th/9th Generation Intel Core™/I3/ Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor</td>
<td>Intel® C242</td>
<td>microATX, 9.6&quot; x 9.6&quot;</td>
<td>DDR4-2666MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x16 (in x16 slot), 2 PCI-E 3.0 x4 (in x8 slot)</td>
</tr>
</tbody>
</table>

### Cost-optimized Micro Serverboard

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Memory Capacity</th>
<th>Expansion Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SCL-IF</td>
<td>8th/9th Generation Intel Core™/I3/ Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor</td>
<td>Intel® C242</td>
<td>Intel® C242</td>
<td>DDR4-2666MHz, in 2 DIMM slots</td>
<td>1 PCI-E 3.0 x16</td>
</tr>
</tbody>
</table>

### 1U-Optimized Quad LAN

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Memory Capacity</th>
<th>Expansion Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SCL-LN4F</td>
<td>8th/9th Generation Intel Core™/I3/ Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor</td>
<td>Intel® C242</td>
<td>95W TDP</td>
<td>DDR4-2666MHz, in 2 DIMM slots</td>
<td>1 PCI-E 3.0 x16</td>
</tr>
</tbody>
</table>

### WIO

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Memory Capacity</th>
<th>Expansion Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SCL-F</td>
<td>8th/9th Generation Intel Core™/I3/ Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor</td>
<td>Intel® C242</td>
<td>Proprietary WIO, 8&quot; x 13&quot;</td>
<td>DDR4-2666MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x4 (in x8 slot)</td>
</tr>
</tbody>
</table>

### Other Features

- **BIOS**: UEFI 256Mb, UEFI 256Mb, UEFI 256Mb, UEFI 256Mb
- **PC Health Monitoring**: ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL
- **Others**: ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL

*For detailed memory configurations please refer to Supermicro website.
**For integration into SuperServer™ systems only, not available for sale as subsystems.
### X11 UP Serverboards

#### Processor
- **8th/9th Generation Intel® Core™i3/i5/i7/Pentium®/Celeron® Processor**, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor
- Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP

#### Chipset
- Intel® C246

#### Form Factor
- Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)

#### Optimized Chassis
- SCB13MF7QC-R407CB
- SCB13MF7QC-R407CB
- SCB13MF7QC-R407CB
- SCB13MF7QC-R407CB
- SCB13MF7QC-R407CB

#### Memory Capacity & Slots*
- Up to 128GB DDR4 ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots

#### Expansion Slots
- **1 PCI-E 3.0 x8** (in x16 slot), **1 PCI-E 3.0 x8**
- **M.2 Interface**: PCI-E 3.0 x4
- **M.2 Form Factor**: 2280, 22110
- **M.2 Key**: M-Key
- Double Height Connector

#### Onboard RAID Controller
- Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10

#### Onboard LAN Dual LAN with Intel® Ethernet Controller I210
- Quad LAN with Intel® Ethernet Controller I210

#### Onboard VGA
- 1 VGA port, ASPEED AST2500 BMC

#### USB Ports
- 6x USB 2.0 ports (2 rear, 4 via headers)
- 2x USB 3.1 Gen1 ports (rear); 3x USB 3.1 Gen1 ports (1 Type-A, 2 via headers)

#### Other Onboard Devices
- TPM 2.0 Header
- 2 COM Ports (1 rear, 1 header)

#### Thermal Control
- ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, UID, WOL

#### BIOS
- UEFI 256Mb

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*For detailed memory configurations please refer to Supermicro website.

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<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SCA</th>
<th>X11SCA-F</th>
<th>X11SCA-W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>8th/9th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP</td>
<td>8th/9th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP</td>
<td>8th/9th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
</tr>
<tr>
<td>Form Factor</td>
<td>ATX, 12” x 9.6” (30.48cm x 24.38cm)</td>
<td>ATX, 12” x 9.6” (30.48cm x 24.38cm)</td>
<td>ATX, 12” x 9.6” (30.48cm x 24.38cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 - 5V PCI 32bit M.2 Interface: 2 PCI-E 3.0 x4 M.2 Form Factor: 2242/2260/2280/22110 M.2 Key: M-KEY M.2#1 is shared with PCI-E4 slot, M.2#2 is shared with U.2</td>
<td>1 - 5V PCI 32bit M.2 Interface: 2 PCI-E 3.0 x4 M.2 Form Factor: 2242/2260/2280/22110 M.2 Key: M-KEY M.2#1 is shared with PCI-E4 slot, M.2#2 is shared with U.2</td>
<td>1 - 5V PCI 32bit M.2 Interface: 2 PCI-E 3.0 x4 M.2 Form Factor: 2242/2260/2280/22110 M.2 Key: M-KEY M.2#1 is shared with PCI-E4 slot, M.2#2 is shared with U.2</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 HDMI port, 1 DVI-D port, 1 DP (DisplayPort) port, Intel® UHD P630 graphic (For CPU Xeon® E-21XXG/E-22XXG series only), ASPEED AST2500 BMC</td>
<td>1 HDMI port, 1 DVI-D port, 1 DP (DisplayPort) port, Intel® UHD P630 graphic (For CPU Xeon® E-21XXG/E-22XXG series only), ASPEED AST2500 BMC</td>
<td>1 HDMI port, 1 DVI-D port, 1 DP (DisplayPort) port, Intel® UHD P630 graphic (For CPU Xeon® E-21XXG/E-22XXG series only), ASPEED AST2500 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2.0 ports (2 via headers) 4 USB 3.1 Gen1 ports (2 Rears Type A, 2 via headers) 4 USB 3.1 Gen2 ports (1 Rear Type A + 1 Rear Type C, 1 via header, 1 Type A)</td>
<td>2 USB 2.0 ports (2 via headers) 4 USB 3.1 Gen1 ports (2 Rears Type A, 2 via headers) 4 USB 3.1 Gen2 ports (1 Rear Type A + 1 Rear Type C, 1 via header, 1 Type A)</td>
<td>2 USB 2.0 ports (2 via headers) 4 USB 3.1 Gen1 ports (2 Rears Type A, 2 via headers) 4 USB 3.1 Gen2 ports (1 Rear Type A + 1 Rear Type C, 1 via header, 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>ALC 8885 HD Audio TPA 2.0 Header 1 COM Port (1 header)</td>
<td>ALC 8885 HD Audio TPA 2.0 Header 1 COM Port (1 header)</td>
<td>ALC 8885 HD Audio TPA 2.0 Header 1 COM Port (1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog +1.8V, +12V, +3.3V, +5V, +5V standby, 5 -fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, VBAT</td>
<td>IPMI2.0, SST, SUM, SuperDoctor® 5, Watchdog +1.8V, +12V, +3.3V, +5V, +5V standby, 5 -fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, VBAT</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog +1.8V, +12V, +3.3V, +5V, +5V standby, 5 -fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, VBAT</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal Control</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, RoHS, WOL</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, RoHS, WOL</td>
<td>8-pin 12v DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, RoHS, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
</tr>
</tbody>
</table>

*For detailed memory configurations please refer to Supermicro website.

**For integration into SuperServer® systems only, not available for sale as subsystems.
## X11 UP Serverboards

### MODEL X11SRM-F

**Processor**
- Intel® Xeon® W-2100 Processors, Intel® Xeon® W-2200 Processors
- Single Socket LGA-2066 (Socket R4) supported, CPU TDP supports up to 165W TDP

**Chipset**
- Intel® C422

**Form Factor**
- microATX, 9.6” x 9.6” (24.38cm x 24.38cm)

**Optimized Chassis**
- SC813MFTQC-R407CB
- 1U Heatsink: SNK-P0057PS

**Memory Capacity & Slots**
- Up to 256GB ECC RDIMM, DDR4-2933MHz; up to 512GB ECC LRDIMM, DDR4-2933MHz, in 4 DIMM slots

**Expansion Slots**
- 1 PCI-E 3.0 x16, 2 PCI-E 3.0 x8
- M.2 Interface: 1 PCI-E 3.0 x4
- M.2 Form Factor: 2280
- M.2 Key: M-Key
- Double Height Connector

**Onboard RAID Controller**
- Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10

**Onboard LAN**
- Dual LAN with Intel® i210 Gigabit Ethernet Controller

**Onboard VGA**
- 1 VGA port, ASPEED AST2500 BMC

**USB Ports**
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)

**Other Onboard I/O Devices**
- TPM Header
  - 2 COM Ports (1 rear, 1 header)

**Manageability**
- IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor* 5, Watchdog

**PC Health Monitoring**
- +1.8V, +12V, +3.3V, +5V standby, 3.3V standby, 6-pin status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT

**Thermal Control**

**Other Features**
- ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID

**BIOS**
- AMI UEFI

### MODEL X11SRM-VF

**Processor**
- Intel® Xeon® W-2100 Processors, Intel® Xeon® W-2200 Processors
- Single Socket LGA-2066 (Socket R4) supported, CPU TDP supports up to 165W TDP

**Chipset**
- Intel® C422

**Form Factor**
- microATX, 9.6” x 9.6” (24.38cm x 24.38cm)

**Optimized Chassis**
- SC813MFTQC-R407CB
- 1U Heatsink: SNK-P0057PS

**Memory Capacity & Slots**
- Up to 256GB ECC RDIMM, DDR4-2933MHz; up to 512GB ECC LRDIMM, DDR4-2933MHz, in 4 DIMM slots

**Expansion Slots**
- 1 PCI-E 3.0 x16, 2 PCI-E 3.0 x8
- M.2 Interface: 1 PCI-E 3.0 x4
- M.2 Form Factor: 2280
- M.2 Key: M-Key
- Double Height Connector

**Onboard RAID Controller**
- Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10

**Onboard LAN**
- Dual LAN with Intel® i210 Gigabit Ethernet Controller

**Onboard VGA**
- 1 VGA port, ASPEED AST2500 BMC

**USB Ports**
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)

**Other Onboard I/O Devices**
- TPM Header
  - 2 COM Ports (1 rear, 1 header)

**Manageability**
- IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor* 5, Watchdog

**PC Health Monitoring**
- +1.8V, +12V, +3.3V, +5V standby, 3.3V standby, 6-pin status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT

**Thermal Control**

**Other Features**
- ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID

**BIOS**
- AMI UEFI

### MODEL X11SRL-F

**Processor**
- Intel® Xeon® W-2100 Processors, Intel® Xeon® W-2200 Processors
- Single Socket LGA-2066 (Socket R4) supported, CPU TDP supports up to 165W TDP

**Chipset**
- Intel® C422

**Form Factor**
- ATX, 12” x 9.6” (30.48cm x 24.38cm)

**Optimized Chassis**
- SC813MFAC2-341CB
- SC813MFAC2-R606CB
- SC813MFTQC-R407CB

**Memory Capacity & Slots**
- Up to 256GB ECC RDIMM, DDR4-2933MHz; up to 1TB Registered ECC LRDIMM, DDR4-2933MHz, in 4 DIMM slots

**Expansion Slots**
- 1 PCI-E 3.0 x16, 1 PCI-E 3.0 x8, 4 PCI-E 3.0 NVMe x4 Internal Port(s)
- M.2 Form Factor: 2280
- M.2 Key: M-Key
- Double Height Connector

**Onboard RAID Controller**
- Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10

**Onboard LAN**
- Dual LAN with Intel® i210 Gigabit Ethernet Controller

**Onboard VGA**
- 1 VGA port, ASPEED AST2500 BMC

**USB Ports**
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)

**Other Onboard I/O Devices**
- TPM Header
  - 2 COM Ports (1 rear, 1 header)

**Manageability**
- IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor* 5, Watchdog

**PC Health Monitoring**
- +1.8V, +12V, +3.3V, +5V standby, 3.3V standby, 7-fan status, 3.3V standby, +1.8V, +12V, +3.3V, +5V standby, 3.3V standby, 6-pin status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT

**Thermal Control**

**Other Features**
- ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID

**BIOS**
- AMI UEFI

### MODEL X11Sri-IF

**Processor**
- Intel® Xeon® W-2100 Processors, Intel® Xeon® W-2200 Processors
- Single Socket LGA-2066 (Socket R4) supported, CPU TDP supports up to 165W TDP

**Chipset**
- Intel® C422

**Form Factor**
- Mini-ITX, 6.75” x 6.75” (17.15cm x 17.15cm)

**Optimized Chassis**
- SC813STQC

**Memory Capacity & Slots**
- Up to 256GB ECC RDIMM, DDR4-2933MHz; up to 512GB ECC LRDIMM, DDR4-2933MHz, in 4 DIMM slots

**Expansion Slots**
- 1 PCI-E 3.0 x16, 2 PCI-E 3.0 NVMe x4 Internal Port(s)

**Onboard RAID Controller**
- Intel® C422 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

**Onboard LAN**
- Dual LAN with Intel® i210 Gigabit Ethernet Controller

**Onboard VGA**
- 1 VGA port, ASPEED AST2500 BMC

**USB Ports**
- 6 USB 2.0 ports (2 rear)
- 2 USB 3.2 Gen1 ports (2 rear)

**Other Onboard I/O Devices**
- TPM Header
  - 1 COM Port (1 header)

**Manageability**
- IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor* 5, Watchdog

**PC Health Monitoring**
- +1.8V, +12V, +3.3V, +5V standby, 3.3V standby, 3-fan status, 3.3V standby, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT

**Thermal Control**

**Other Features**
- ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID

**BIOS**
- AMI UEFI

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
## X11 UP Serverboards

### High-Performance VROC Support
- Up to 2TB 3DS ECC DDR4-2933 MHz
- Rich I/O Expansion and 10GbE

### Embedded Ready VROC Support
- Up to 1.5TB 3DS ECC DDR4-2933 MHz
- 2x 1GbE (-F), 2x 10GbE (-TF), 2x 10G SFP+ (-TPF)

### Embedded/IoT Building Block Solutions - October 2021

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SP1-TF</th>
<th>X11SPM-F</th>
<th>X11SPM-TPF</th>
<th>X11SPW-TF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket P (LGA 3647) supported, CPU TDP support up to 205W TDP.</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket P (LGA 3647) supported, CPU TDP support up to 165W TDP.</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket P (LGA 3647) supported, CPU TDP support up to 205W TDP.</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket P (LGA 3647) supported, CPU TDP support up to 205W TDP.</td>
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<tr>
<td>Chipset</td>
<td>Intel® C622</td>
<td>Intel® C622</td>
<td>Proprietary WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>Intel® C622</td>
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<tr>
<td>Form Factor</td>
<td>Optimized Chassis</td>
<td>Optimized Chassis</td>
<td>OPTIMIZED CHASSIS</td>
<td>Optimized Chassis</td>
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<tr>
<td>ATX, 12&quot; x 9.6&quot; (30.48cm x 24.38cm)</td>
<td>microATX, 9.6&quot; x 9.6&quot; (24.38 cm x 24.38 cm)</td>
<td>microATX, 9.6&quot; x 9.6&quot; (24.38 cm x 24.38 cm)</td>
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<td>microATX, 9.6&quot; x 9.6&quot; (24.38 cm x 24.38 cm)</td>
</tr>
<tr>
<td>Memory Capacity</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933 MHz; up to 2TB 3DS ECC LRDIMM, DDR4-2933 MHz, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933 MHz; up to 2TB 3DS ECC LRDIMM, DDR4-2933 MHz, in 8 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933 MHz; up to 1.5TB 3DS ECC LRDIMM, DDR4-2933 MHz, in 8 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933 MHz; up to 1.5TB 3DS ECC LRDIMM, DDR4-2933 MHz, in 8 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x16 (x16 or x8), 1 PCI-E 3.0 x8 (x0 or x8), 1 PCI-E 3.0 x8, M.2 1G PEM</td>
<td>2 PCI-E 3.0 x16, 1 PCI-E 3.0 x8</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x8</td>
<td>2 PCI-E 3.0 x16, 1 PCI-E 3.0 x8</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10,10 -TF/-TPF: Intel® C622 controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5,10,10</td>
<td>Intel® C622 controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5,10,10</td>
<td>Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
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<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 1GbE with Intel® X722 + Marvell 88E1512 -TF: Dual LAN with 10GbE-T with Intel® X722 + X557</td>
<td>Dual LAN with 10G SFP+ with Intel® X722 + Inphi CX4227 -TF: Dual LAN with 10GbE-T with Intel® X722 + X557</td>
<td>Dual LAN with 10GbE-T with Intel® X722 + X557</td>
<td>Dual LAN with 10GbE-T with Intel® X722 + X557</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
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<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)</td>
<td>5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)</td>
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<tr>
<td>Other Onboard I/O Devices</td>
<td>2 ports SuperDOM</td>
<td>2 ports SuperDOM</td>
<td>2 ports SuperDOM</td>
<td>2 ports SuperDOM</td>
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<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® S, Watchdog +1.8V, +12V, -3.3V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® S, Watchdog +1.8V, +12V, -3.3V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® S, Watchdog +1.8V, +12V, -3.3V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® S, Watchdog +1.8V, +12V, -3.3V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, Supports system management utility, VBAT</td>
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<tr>
<td>Thermal Control</td>
<td>Overheat LED indication, PWM fan speed control, System level control</td>
<td>Overheat LED indication, PWM fan speed control, System level control</td>
<td>Overheat LED indication, PWM fan speed control, System level control</td>
<td>Overheat LED indication, PWM fan speed control, System level control</td>
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<tr>
<td>Other Features</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL</td>
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<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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## X11 UP Serverboards

### High Performance VROC Support
Up to 2TB 3DS ECC DDR4-2933 MHz
NVMe, SAS3 and 10G SFP+

### High Performance
Up to 2TB 3DS ECC DDR4-2933 MHz
NVMe, SAS3 and 10G SFP+

### VROC and I/O Optimized
Up to 2TB 3DS ECC DDR4-2933 MHz
7 PCIe 3.0 slots

### GPU Optimized
Up to 1.5TB 3DS ECC DDR4-2933 MHz
1U/2 GPU or 1/US AOC

### MODEL

<table>
<thead>
<tr>
<th>X11SPH-nCTF</th>
<th>X11SPH-nCTPF</th>
<th>X11SPL-F</th>
<th>X11SPG-TF**</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket P (LGA 3647) supported, CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R).</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket P (LGA 3647) supported, CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R).</td>
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<tr>
<td>Chipset</td>
<td>Intel® C622</td>
<td>Intel® C622</td>
<td>Intel® C621</td>
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<td>Form Factor</td>
<td>ATX, 12&quot; x 9.6&quot; (30.48cm x 24.38cm)</td>
<td>ATX, 12&quot; x 9.6&quot; (30.48cm x 24.38cm)</td>
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<tr>
<td>Expansion Slots</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; up to 2TB 3DS ECC LRDIMM, DDR4-2933MHz, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; up to 2TB 3DS ECC LRDIMM, DDR4-2933MHz, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; up to 2TB 3DS ECC LRDIMM, DDR4-2933MHz, in 8 DIMM slots</td>
</tr>
<tr>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

* For detailed memory configurations please refer to Supermicro website.
†† For 2nd Generation Intel® Xeon® Scalable processors (Cascade Lake-SP Refresh / Cascade Lake-SP) only. Contact your Supermicro sales rep for more info.

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**Notes:**
- **2933 MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro.

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**Model:**
- **X11SPH-nCTF**
- **X11SPH-nCTPF**
- **X11SPL-F**
- **X11SPG-TF**

**Chassis:**
- Optimized Chassis
  - SuperDoctor® 5, Watchdog
  - Intel® Node Manager, IPMI2.0, KVM
  - ACPI power management, Control of power-on for recovery from AC power loss, RoHS, UID, WOL

**Processors:**
- 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors.

**Expansion Slots:**
- M.2 Key: M-Key
  - Double Height Connector
  - Intel® C622 controller for 10 SATA3 (6 Gbps ports; RAID 0,1,5,10)

**Memory Capacity:**
- Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; up to 2TB 3DS ECC LRDIMM, DDR4-2933MHz, in 8 DIMM slots

**BIOS:**
- AMI UEFI
### X11 UP Serverboards

#### Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Intel® QSV &amp; VHD with GT2</th>
<th>Intel® QSV &amp; VHD with GT2</th>
<th>Intel® QSV &amp; VHD with GT2</th>
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</table>

#### Processor


#### Chipset

- X11SSW-TF: Intel® C236
- X11SSW-4TF: Intel® C236
- X11SSW-F: Intel® C236

#### Optimized Chassis

<table>
<thead>
<tr>
<th>X11SSW-TF</th>
<th>X11SSW-4TF</th>
<th>X11SSW-F</th>
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<tr>
<td>SC815TCQ-R504WB</td>
<td>SC815TCQ-R500WB</td>
<td>SC815TCQ-R504WB</td>
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<tr>
<td>SC815TCQ-605WB</td>
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<tr>
<td>SC154-505</td>
<td>SC154-505</td>
<td>SC154-505</td>
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<td>1U Heatsink: SNK-P0046P</td>
<td>1U Heatsink: SNK-P0046P</td>
<td>1U Heatsink: SNK-P0046P</td>
</tr>
</tbody>
</table>

#### Form Factor

- Proprietary, 8" x 13" (20.32cm x 33.02cm)

#### Memory Capacity & Slots

- 64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots

#### Expansion Slots

- 1 PCI-E 3.0 x16 Left Riser Slot
- M.2 Interface: PCI-E 3.0 x4
- M.2 Form Factor: 2260, 2280, 22110
- M.2 Key: M-Key
- Double Height Connector

#### Onboard RAID Controller

- Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10

#### Onboard LAN

- Dual LAN with Intel® X540 10GbE-T Ethernet Controller
- Quad LAN with Intel® X540 10GbE-T Ethernet Controller

#### USB Ports

- 6 USB 2.0 ports (2 rear + 4 headers)
- 5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)
- 2 ports SuperDOM

#### Other Onboard Devices

- TPM Header
- 2 COM Ports (1 rear, 1 header)

#### Manageability

- Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog

#### PC Health Monitoring

- 12V, +3.3V, +5V, +5V standby, -6V sink, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT

#### Thermal Control

- 6x4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors

#### BIOS

- 128Mb SPI Flash EEPROM with AMI BIOS

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*Supermicro chassis required for optimal functionality and performance.

*For detailed memory configurations please refer to Supermicro website.
**MODEL** | **X11SSL** | **X11SSL-F** | **X11SSL-CF** | **X11SSL-nF**
---|---|---|---|---
**Processor** | Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP | Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP | Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP | Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP
**Chips** | Intel® C232 | Intel® C232 | Intel® C232 | Intel® C232
**Form Factor** | Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm) | Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm) | Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm) | Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
**Memory Capacity & Slots** | 64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots | 64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots | 64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots | 64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots
**Expansion Slots** | 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot) | 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot), 1 PCI-E 3.0 x4 (in x8 slot) | 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot), 1 PCI-E 3.0 x1, 2 PCI-E 3.0 NVMe x4 External Ports | 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot), 1 PCI-E 3.0 x1, 2 PCI-E 3.0 NVMe x4 External Ports
**Onboard RAID Controller** | Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10 | Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10 | Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10 | Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
**Onboard LAN** | Dual LAN with Intel® Ethernet Controller I210-AT | Dual LAN with Intel® Ethernet Controller I210-AT | Dual LAN with Intel® Ethernet Controller I210-AT | Dual LAN with Intel® Ethernet Controller I210-AT
**Onboard VGA** | 1 VGA port, Aspeed AST1400 | 1 VGA port, Aspeed AST2400 BMC | 1 VGA port, Aspeed AST2400 BMC | 1 VGA port, Aspeed AST2400 BMC
**USB Ports** | 6 USB 2.0 ports (2 rear + 4 headers) | 6 USB 2.0 ports (2 rear + 4 headers) | 6 USB 2.0 ports (2 rear + 4 headers) | 6 USB 2.0 ports (2 rear + 4 headers)
**Other Onboard I/O Devices** | 2 ports SuperDOM, TPM Header, 1 COM Port (1 rear) | 2 ports SuperDOM, TPM Header, 1 COM Port (1 rear) | 2 ports SuperDOM, TPM Header, 2 COM Ports (1 rear, 1 header) | 2 ports SuperDOM, TPM Header, 2 COM Ports (1 rear, 1 header)
**Manageability** | NMI, SSM, SuperDoctor™ 5, Watchdog | IPMI2.0, NMI, SSM, SUM, SuperDoctor™ 5, Watchdog | IPMI2.0, NMI, SSM, SUM, SuperDoctor™ 5, Watchdog | IPMI2.0, NMI, SSM, SUM, SuperDoctor™ 5, Watchdog
**PC Health Monitoring** | +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT | +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT | +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT | +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT
**Thermal Control** | 5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors | 5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors | 5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors | 5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors
**Other Features** | Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, WOL | Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, WOL | Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, WOL | Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, WOL
**BIOS** | 128Mb SPI Flash EEPROM with AMI BIOS | 128Mb SPI Flash EEPROM with AMI BIOS | 128Mb SPI Flash EEPROM with AMI BIOS | 128Mb SPI Flash EEPROM with AMI BIOS

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*(Supermicro chassis required for optimal functionality and performance.)*

*For detailed memory configurations please refer to Supermicro website.*
**MODEL**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSH-CTF</th>
<th>X11SSH-TF</th>
<th>X11SSH-F</th>
<th>X11SSH-LN4F</th>
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<tr>
<td>Processor</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
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<td>Chipset</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
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<td>Form Factor</td>
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<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x8, 1 PCI-E x 0.2 (in x4 slot)</td>
<td>M.2 Interface: SATA and PCI-E 3.0 x4</td>
<td>M.2 Interface: SATA and PCI-E 3.0 x4</td>
<td>M.2 Interface: SATA and PCI-E 3.0 x4</td>
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<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® X550 10GBase-T Ethernet Controller</td>
<td>Dual LAN with Intel® X550 10GBase-T Ethernet Controller</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>Quad LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>2 ports SuperDOM, TPM Header</td>
<td>2 ports SuperDOM, TPM Header, 2 COM Ports (1 rear, 1 header)</td>
<td>2 ports SuperDOM, TPM Header, 2 COM Ports (1 rear, 1 header)</td>
<td>2 ports SuperDOM, TPM Header, 2 COM Ports (1 rear, 1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>6x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indicator, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indicator, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indicator, Thermal control tachometer fan connectors</td>
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</tr>
<tr>
<td>Thermal Control</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Node Manager Support, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Node Manager Support, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, VHD, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, VHD, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
</tr>
</tbody>
</table>

* Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
### X11 UP Serverboards

**Cost/Performance Optimized**

![Cost/Performance Optimized](Image 123x595 to 210x684)

**ATX, 9.6”W x 9.6”H**

### 1U Networking Appliance

![1U Networking Appliance](Image 240x595 to 327x684)

**ATX, 9.6”W x 9.6”H**

### Legacy-4x PCI-32 Support

![Legacy-4x PCI-32 Support](Image 346x595 to 455x684)

**ATX, 9.6”W x 9.6”H**

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### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSM</th>
<th>X11SSM-F</th>
<th>X11SSI-LN4F</th>
<th>X11SSA-F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Micro-ATX, 9.6”W x 9.6”H (24.38cm x 24.38cm)</td>
<td>ATX, 9.6”W x 9.6”H (30.48cm x 24.38cm)</td>
<td>ATX, 9.6”W x 9.6”H (30.48cm x 24.38cm)</td>
<td>ATX, 9.6”W x 9.6”H (30.48cm x 24.38cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x8, 2 PCI-E 3.0 x4 (in x8 slot)</td>
<td>1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x8, 2 PCI-E 3.0 x4 (in x8 slot)</td>
<td>1 PCI-E 3.0 x8, 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot)</td>
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</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
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<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>Quad LAN with Intel® Ethernet Controller I210-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed AST1400</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
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<td>1 VGA port, Aspeed AST2400 BMC</td>
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<tr>
<td>Manageability</td>
<td>NMI, SSM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SSM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SSM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SSM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
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<tr>
<td>Thermal Control</td>
<td>5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
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<td>BIOS</td>
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</tbody>
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* For detailed memory configurations please refer to Supermicro website.

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**Emb edded/IoT Building Block Solutions - October 2021**

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**Supported Form Factors**

- Micro-ATX, 9.6”W x 9.6”H (24.38cm x 24.38cm)
- ATX, 12”W x 9.6”H (30.48cm x 24.38cm)

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**Coastline Technologies**

- [Coastline Technologies](https://www.coastline-technologies.com)

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**Contact Information**

- Phone: (555) 555-5555
- Email: info@coastline-technologies.com
- Address: 123 Main Street, Anytown, USA 12345
**Embedded/IoT Building Block Solutions - October 2021**

### BIOS

- **AMI UEFI**

### Other Features

- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature (-WOHS)

### Other Information

- **Supermicro chassis required for optimal functionality and performance.
- For detailed memory configurations please refer to Supermicro website.**

---

**MODEL**

<table>
<thead>
<tr>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Optimized</th>
<th>Memory</th>
<th>Capacity &amp; Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SWN-C</td>
<td>Intel® Celeron® Processor 4305U</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz; in 2 D IMM slots</td>
<td></td>
</tr>
<tr>
<td>X11SWN-E</td>
<td>8th Generation Intel® Core™ i5-8665UE Processor; up to 15W TDP Processor; up to 15W TDP on System Chip</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz; in 2 D IMM slots</td>
<td></td>
</tr>
<tr>
<td>X11SWN-H</td>
<td>8th Generation Intel® Core™ i7-8865UE Processor; up to 15W TDP Processor; up to 15W TDP on System Chip</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz; in 2 D IMM slots</td>
<td></td>
</tr>
<tr>
<td>X11SWN-L</td>
<td>8th Generation Intel® Core™ i3-8145UE Processor; up to 15W TDP Processor; up to 15W TDP on System Chip</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz; in 2 D IMM slots</td>
<td></td>
</tr>
</tbody>
</table>

### Thermal Control

- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature (-WOHS)

- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature (-WOHS)

- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature (-WOHS)

- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature (-WOHS)

---

**Onboard RAID Controller**

- 1 DP++ (Dual-Mode DisplayPort) port, 1 48-bit LVDS port, 1 HDMI port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 1.4 (max. resolution up to 4096x2160@30Hz), DP++ (max. resolution up to 4096x2304@60Hz), Intel® UHD Graphics 610

- 4 USB 2.0 ports (4 via headers) 4 USB 3.1 Gen2 ports (4 Rears Type A) ALC888S HD Audio

- 1 System Fan 1 SMBus header 1 8-bit GPIO header

- 1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C) 1 8-bit GPIO header 1 SMBus header 1 System Fan

- -WOHS: w/o Heatsink

**Onboard VGA**

- 1 DP++ (Dual-Mode DisplayPort) port, 1 48-bit LVDS port, 1 HDMI port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 1.4 (max. resolution up to 4096x2160@30Hz), DP++ (max. resolution up to 4096x2304@60Hz), Intel® UHD Graphics 610

- 4 USB 2.0 ports (4 via headers) 4 USB 3.1 Gen2 ports (4 Rears Type A) ALC888S HD Audio

- 1 System Fan 1 SMBus header 1 8-bit GPIO header

- 1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C) 1 8-bit GPIO header 1 SMBus header 1 System Fan

- -WOHS: w/o Heatsink

**USB Ports**

- 1 DP++ (Dual-Mode DisplayPort) port, 1 48-bit LVDS port, 1 HDMI port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 1.4 (max. resolution up to 4096x2160@30Hz), DP++ (max. resolution up to 4096x2304@60Hz), Intel® UHD Graphics 610

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- 1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C) 1 8-bit GPIO header 1 SMBus header 1 System Fan

- -WOHS: w/o Heatsink

**Other Onboard I/O Devices**

- 1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C) 1 8-bit GPIO header 1 SMBus header 1 System Fan

- -WOHS: w/o Heatsink

**Management**

- 1 System Fan 1 SMBus header 1 System Fan

- -WOHS: w/o Heatsink

**PC Health Monitoring**

- 1 System Fan 1 SMBus header 1 System Fan

- -WOHS: w/o Heatsink

**SuperDoctor® 5, Watchdog, +12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT**

- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature (-WOHS)

- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature (-WOHS)

- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature (-WOHS)

- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature (-WOHS)
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<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SDW-4C-TP13F+</th>
<th>X11SDW-16C-TP13F+</th>
<th>X11SDW-14CN-TP13F+</th>
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<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® Processor D-2123IT</td>
<td>Intel® Xeon® Processor D-2183IT</td>
<td>Intel® Xeon® Processor D-2171NT</td>
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<tr>
<td>Single Socket</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 60W TDP</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 100W TDP</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports 105W TDP</td>
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<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
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<tr>
<td><strong>Optimized</strong></td>
<td>513BTQC-350WB</td>
<td>513BTQC-350WB</td>
<td>513BTQC-350WB</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x32 Left Riser Slot</td>
<td>1 PCI-E 3.0 x32 Left Riser Slot</td>
<td>1 PCI-E 3.0 x32 Left Riser Slot</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Single DIMM; SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Single DIMM; SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
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</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 10G SFP+ LAN via SoC</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, Header Only, ASPEED AST2500 BMC</td>
<td>1 VGA port, Header Only, ASPEED AST2500 BMC</td>
<td>1 VGA port, Header Only, ASPEED AST2500 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (4 via headers)</td>
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<td>4 USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
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</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
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</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
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</table>

1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SDW-4C-TP13F</th>
<th>X11SDW-8C-TP13F</th>
<th>X11SDW-12C-TP13F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® Processor D-2123IT</td>
<td>Intel® Xeon® Processor D-2146NT</td>
<td>Intel® Xeon® Processor D-2163IT</td>
</tr>
<tr>
<td></td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 60W TDP</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 80W TDP</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 75W TDP</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Proprietary WIO, 8&quot; x 10&quot; (20.32cm x 25.4cm)</td>
<td>Proprietary WIO, 8&quot; x 9.6&quot; (20.32cm x 24.38cm)</td>
<td>Proprietary WIO, 8&quot; x 10&quot; (20.32cm x 25.4cm)</td>
</tr>
<tr>
<td><strong>Optimized Server</strong></td>
<td>SYS-E303-9D-4C-FN13TP</td>
<td>SYS-1019D-FHN13TP</td>
<td>SYS-E403-9D-12C-FN13TP</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM LRDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x2 Left Riser Slot</td>
<td>1 PCI-E 3.0 x2 Left Riser Slot</td>
<td>1 PCI-E 3.0 x2 Left Riser Slot</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 10G SFP+ LAN via SoC</td>
<td>Dual LAN with 10GBase-T</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4 Dual LAN with 10G SFP+ LAN via SoC</td>
</tr>
<tr>
<td></td>
<td>Dual LAN with 10G SFP+ LAN via SoC</td>
<td>Dual LAN with 10GBase-T</td>
<td>Dual LAN with 10GBase-T</td>
</tr>
<tr>
<td></td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Total 13 LAN ports</td>
<td>Quad LAN with 10GBase-T</td>
</tr>
<tr>
<td></td>
<td>Total 13 LAN ports</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Quad LAN with 10GBase-T</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, Header Only, ASPEED AST2500 BMC</td>
<td>1 VGA port, Header Only, ASPEED AST2500 BMC</td>
<td>1 VGA port, Header Only, ASPEED AST2500 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td></td>
<td>2 USB 3.1 Gen1 ports (2 Rears Type A)</td>
<td>2 USB 3.1 Gen1 ports (2 Rears Type A)</td>
<td>2 USB 3.1 Gen1 ports (2 Rears Type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
</tr>
<tr>
<td></td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>2 COM Ports (1 rear, 1 header)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor* 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor* 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor* 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 5-pin, 5-fan status, 6-fan status, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Low noise fan speed control, Overheat LED indicator, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, Status monitoring for speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
</tr>
</tbody>
</table>

*Supermicro chassis requires optimal functionality and performance.

*For detailed memory configurations please refer to Supermicro website.
### Embedded: IoT Building Block Solutions - October 2021

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Processor†</th>
<th>BIOS</th>
<th>Memory &amp; Slots*</th>
<th>Chipset</th>
<th>Form Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SDW-14C-TP13F</td>
<td>Intel® Xeon® Processor D-2173IT</td>
<td>UEFI 256Mb</td>
<td>Up to 256GB Registered ECC RDIMM</td>
<td>System on Chip</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
</tr>
<tr>
<td>X11SDW-14CNT-TP13F</td>
<td>Intel® Xeon® Processor D-2177NT</td>
<td>UEFI 256Mb</td>
<td>Up to 256GB Registered ECC RDIMM</td>
<td>System on Chip</td>
<td>Proprietary WIO, 8” x 9.6” (20.32cm x 24.38cm)</td>
</tr>
<tr>
<td>X11SDW-16C-TP13F</td>
<td>Intel® Xeon® Processor D-2183IT</td>
<td>UEFI 256Mb</td>
<td>Up to 256GB Registered ECC RDIMM</td>
<td>System on Chip</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
</tr>
</tbody>
</table>

**Notes:**
- †Supermicro chassis required for optimal functionality and performance.
- *For detailed memory configurations please refer to Supermicro website.

### Processor
- **X11SDW-14C-TP13F:** Intel® Xeon® Processor D-2173IT
- **X11SDW-14CNT-TP13F:** Intel® Xeon® Processor D-2177NT
- **X11SDW-16C-TP13F:** Intel® Xeon® Processor D-2183IT

### BIOS
- UEFI 256Mb

### Memory & Slots
- **X11SDW-14C-TP13F:**
  - Single Socket FCBGA-2518 supported, CPU TDP supports 70W TDP
  - Supports up to 100W TDP

- **X11SDW-14CNT-TP13F:**
  - Single Socket FCBGA-2518 supported, CPU TDP supports 105W TDP

- **X11SDW-16C-TP13F:**
  - Single Socket FCBGA-2518 supported, CPU TDP supports up to 100W TDP

### Processor†
- **X11SDW-14C-TP13F:** Intel® Xeon® Processor D-2173IT
- **X11SDW-14CNT-TP13F:** Intel® Xeon® Processor D-2177NT
- **X11SDW-16C-TP13F:** Intel® Xeon® Processor D-2183IT

### Other Features
- **X11SDW-14C-TP13F:**
  - Embedded/IoT Building Block Solutions - October 2021

- **X11SDW-14CNT-TP13F:**
  - Embedded/IoT Building Block Solutions - October 2021

- **X11SDW-16C-TP13F:**
  - Embedded/IoT Building Block Solutions - October 2021
## Embedded/IoT Building Block Solutions - October 2021

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<thead>
<tr>
<th>MODEL</th>
<th>X11SCV-Q</th>
<th>X11SCV-L</th>
<th>X11SDV-16C+TLM2F</th>
<th>X11SDV-8C+TLM2F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>8th Generation Intel® Core® i7/1151/1150</td>
<td>8th Generation Intel® Core® i7/1151/1150</td>
<td>Intel® Xeon® Processor D-2181IT</td>
<td>Intel® Xeon® Processor D-2141L</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® Q370</td>
<td>Intel® H310</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Mini-ITX, 6.75” W x 6.75” H</td>
<td>Mini-ITX, 6.75” W x 6.75” H</td>
<td>Mini-ITX, 6.75” W x 6.75” H</td>
<td>Mini-ITX, 6.75” W x 6.75” H</td>
</tr>
<tr>
<td><strong>Optimized BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>6.7” x 6.7” (17.02 cm x 17.02 cm)</td>
<td>6.7” x 6.7” (17.02 cm x 17.02 cm)</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, up to 512GB ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133 MHz, up to 512GB ECC RDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666 MHz, in 2 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, up to 512GB ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133 MHz, up to 512GB ECC RDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x16</td>
<td>1 PCI-E 3.0 x16</td>
<td>1 PCI-E 3.0 x8</td>
<td>1 PCI-E 3.0 x8</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® Q370 controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® H310 controller for 4 SATA3 (6 Gbps) ports; Only 1-SATA0 - 1-SATA3</td>
<td>Intel® Xeon® Processor D-2181IT controller</td>
<td>Intel® Xeon® Processor D-2141L controller</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Single LAN with Intel® Ethernet Controller I210-AT</td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
<td>Dual LAN with 10GbE-T with Intel® X557</td>
<td>Dual LAN with 10GbE-T with Intel® X557</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 DP - DisplayPort port, 1 HDMI port, 1 USB 3.0 port</td>
<td>1 DP - DisplayPort port, 1 HDMI port, 1 USB 3.0 port</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>2 USB 3.0 ports (2 rear)</td>
<td>2 USB 3.0 ports (2 rear)</td>
<td>2 USB 3.0 ports (2 rear)</td>
<td>2 USB 3.0 ports (2 rear)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM Header</td>
<td>TPM Header</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>AMT, NMI, SuperDoctor’, vPro, Watchdog</td>
<td>NMI, SuperDoctor’, Watchdog</td>
<td>Intel’Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor’, Watchdog</td>
<td>Intel’Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor’, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.8V, +3.3V, +5V, +5V Standby, 3-pin status, HT, System level control, System temperature, VBAT</td>
<td>+1.8V, +3.3V, +5V, +5V Standby, 3-pin status, HT, System level control, System temperature, VBAT</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V Standby, 1.05V (PCH), 1.2V (VDIMM), 3-pin status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V Standby, 1.05V (PCH), 1.2V (VDIMM), 3-pin status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Fan speed control, Low noise fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Pulse Width Modulated (PWM) fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

Superseded Microchips are required for optimal functionality and performance.

*For detailed memory configurations please refer to Supermicro website.*
## BIOS

<table>
<thead>
<tr>
<th>Feature</th>
<th>X11SCQ</th>
<th>X11SCQ-L</th>
<th>X11SCZ-Q</th>
<th>X11SCZ-F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>8th/9th Generation Intel® Core™ i9/ Core™ i7/Core™ i5/Core™ i3/Pentium®/ Celeron® Processor</td>
<td>8th/9th Generation Intel® Core™ i9/ Core™ i7/Core™ i5/Core™ i3/Pentium®/ Celeron® Processor</td>
<td>8th/9th Generation Intel® Core™ i9/ Core™ i7/Core™ i5/Core™ i3/Pentium®/ Celeron® Processor</td>
<td>8th/9th Generation Intel® Core™ i9/ Core™ i7/Core™ i5/Core™ i3/Pentium®/ Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® Q370</td>
<td>Intel® Q370</td>
<td>Intel® Q370</td>
<td>Intel® C246</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>uATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>uATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>uATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>uATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 64GB Unbuffered non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC UDIMM, DDR4-2666MHz, in 2 DIMM slots</td>
<td>Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x1, 2 PCI-E 3.0 x4, M.2 Interface: 1 PCI-E 3.0 x4, M.2 Form Factor: 2242/2280/22110 M.2 Key: M-Key</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 2.0 x4, 1 PCI-E 2.0 x1</td>
<td>1 PCI-E 3.0 x16, 2 PCI-E 3.0 x4 (in x8 slot), M.2 Interface: 1 SATA/PCI-E 3.0 x4, M.2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>1 PCI-E 3.0 x16, 2 PCI-E 3.0 x4 (in x8 slot) 1 M.2 M-Key SATA/PCI-E 3.0 x4, 2280/22110</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® Q370 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® H310 controller for 4 SATA3 (6 Gbps) ports;</td>
<td>Intel® Q370 controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C246 controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 DVI - D port, 1 HDMI port, 1 DP (DisplayPort) port, 1 eDP (Embedded DisplayPort) port, 3 Independent Displays, Intel® HD Graphics</td>
<td>1 DVI - D port, 1 HDMI port, 1 DP (DisplayPort) port, 1 eDP (Embedded DisplayPort) port, 2 Independent Displays, Intel® HD Graphics</td>
<td>1 DVI - I port, 2 DP (DisplayPort) ports, 3 Independent Displays, Intel® HD Graphics</td>
<td>1 VGA D-Sub Connector port, 1 DVI - I port, 2 DP (DisplayPort) ports, 3 Independent Displays, ASPEED AST2300 BMC, Intel® HD Graphics</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (6 via headers, 1 Type A)</td>
<td>7 USB 2.0 ports (2 rear + 4 via headers)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>7.1 HD Audio TPM Header &amp; Chip both 6 COM Ports (6 headers)</td>
<td>7.1 HD Audio TPM Header 6 COM Ports (6 headers)</td>
<td>1 Port SuperDOM ALC 8885 HD Audio TPM Header &amp; Chip both 4 COM Ports (4 headers)</td>
<td>ALC 8885 HD Audio TPM Header &amp; Chip both 4 COM Ports (4 headers)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>AMT, NMI, SuperDoctor® 5, vPro, Watchdog</td>
<td>NMI, SuperDoctor® 5, Watchdog</td>
<td>AMT, NMI, SuperDoctor® 5, vPro, Watchdog</td>
<td>IPMI (Intelligent Platform Management Interface v2.0 with KVM support, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 4 fans with tachometer monitoring, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 4 fans with tachometer monitoring, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 4 fans with tachometer monitoring, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, 1.05 (PCH), 1.2V (VDIMM), 3.3V standby, 6 -fan status, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, System temperature, VBAT</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>ACPI power management, ATX Power connector, Chassis intrusion header, M.2 NGFF connector, RoHS</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion header, M.2 NGFF connector, RoHS</td>
<td>8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, M.2 NGFF connector, RoHS</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, M.2 NGFF connector, RoHS, UID</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>
## Embedded

### X11SDV-4C-TP8F
- Processor: Intel® Xeon® Processor D-2123IT
- Chipset: System on Chip
- Form Factor: Flex ATX, 9”W x 7.25”H
- Other Features: M.2 NGFF connector, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS
- BIOS: UEFI 128Mb

### X11SDV-8C-TP8F
- Processor: Intel® Xeon® Processor D-2146N, CPU TDP support up to 80W TDP
- Chipset: System on Chip
- Form Factor: Flex ATX, 9”W x 7.25”H
- Other Features: M.2 NGFF connector, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS
- BIOS: UEFI 128Mb

### X11SDV-12C-TP8F
- Processor: Intel® Xeon® Processor D-2166NT, CPU TDP support up to 85W TDP
- Chipset: System on Chip
- Form Factor: Flex ATX, 9”W x 7.25”H
- Other Features: M.2 NGFF connector, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS
- BIOS: UEFI 128Mb

### X11SDV-16C-TP8F
- Processor: Intel® Xeon® Processor D-2183IT, CPU TDP support up to 100W TDP
- Chipset: System on Chip
- Form Factor: Flex ATX, 9”W x 7.25”H
- Other Features: M.2 NGFF connector, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS
- BIOS: UEFI 128Mb

### Model

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SDV-4C-TP8F</th>
<th>X11SDV-8C-TP8F</th>
<th>X11SDV-12C-TP8F</th>
<th>X11SDV-16C-TP8F</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Xeon® Processor D-2123IT</td>
<td>Intel® Xeon® Processor D-2146NT, CPU TDP support up to 80W TDP</td>
<td>Intel® Xeon® Processor D-2166NT, CPU TDP support up to 85W TDP</td>
<td>Intel® Xeon® Processor D-2183IT, CPU TDP support up to 100W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
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<tr>
<td>Form Factor</td>
<td>Flex ATX, 9”W x 7.25”H</td>
<td>Flex ATX, 9”W x 7.25”H</td>
<td>Flex ATX, 9”W x 7.25”H</td>
<td>Flex ATX, 9”W x 7.25”H</td>
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<tr>
<td>Other Features</td>
<td>M.2 NGFF connector, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS</td>
<td>M.2 NGFF connector, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS</td>
<td>M.2 NGFF connector, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS</td>
<td>M.2 NGFF connector, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS</td>
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<tr>
<td>BIOS</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
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1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SDV-4C-TLN2F</th>
<th>X11SDV-8C-TLN2F</th>
<th>X11SDV-12C-TLN2F</th>
<th>X11SDV-16C-TLN2F</th>
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<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Xeon® Processor D-2123IT, CPU TDP support up to 60W TDP</td>
<td>Intel® Xeon® Processor D-2141I, CPU TDP support up to 65W TDP</td>
<td>Intel® Xeon® Processor D-2166NT, CPU TDP support up to 85W TDP</td>
<td>Intel® Xeon® Processor D-2183IT, CPU TDP support up to 100W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.75” x 6.75” (17.15cm x 17.15cm)</td>
<td>Mini-ITX, 6.75” x 6.75” (17.15cm x 17.15cm)</td>
<td>Mini-ITX, 6.75” x 6.75” (17.15cm x 17.15cm)</td>
<td>Mini-ITX, 6.75” x 6.75” (17.15cm x 17.15cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E x 4 x 4 NVMe Internal Port via OCuLink</td>
<td>1 PCI-E x 4 x 4 NVMe Internal Port via OCuLink</td>
<td>1 PCI-E x 4 x 4 NVMe Internal Port via OCuLink</td>
<td>1 PCI-E x 4 x 4 NVMe Internal Port via OCuLink</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 10GbE-T with Intel® X557</td>
<td>Dual LAN with 10GbE-T with Intel® X557</td>
<td>Dual LAN with 10GbE-T with Intel® X557</td>
<td>Dual LAN with 10GbE-T with Intel® X557</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
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<tr>
<td>USB Ports</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
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<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM Header</td>
<td>TPM Header</td>
<td>TPM Header</td>
<td>TPM Header</td>
</tr>
<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSIM, SUM, SuperDoctor, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSIM, SUM, SuperDoctor, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSIM, SUM, SuperDoctor, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSIM, SUM, SuperDoctor, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.5V, +12V, +3.3V, +5V, ±5V standby, 1.05 (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>+1.5V, +12V, +3.3V, +5V, ±5V standby, 1.05 (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>+1.5V, +12V, +3.3V, +5V, ±5V standby, 1.05 (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>+1.5V, +12V, +3.3V, +5V, ±5V standby, 1.05 (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
</tr>
<tr>
<td>Other Features</td>
<td>12V DC or ATX Power Source, 8-pin</td>
<td>12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID</td>
<td>12V DC or ATX Power Source, 8-pin</td>
<td>12V DC or ATX Power Source, 8-pin</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
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#### MODEL

<table>
<thead>
<tr>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>System on Chip</th>
<th>System on Chip</th>
<th>System on Chip</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th Generation Intel® Core™ i7-7600U Processor, Single Socket FCBG1356 supported, CPU TDP support up to 15W TDP</td>
<td>System on Chip</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td></td>
</tr>
<tr>
<td>7th Generation Intel® Core™ i5-7400U Processor, Single Socket FCBG1356 supported, CPU TDP support up to 15W TDP</td>
<td>System on Chip</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td></td>
</tr>
<tr>
<td>7th Generation Intel® Core™ i3-7100U Processor, Single Socket FCBG1356 supported, CPU TDP support up to 15W TDP</td>
<td>System on Chip</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td></td>
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</table>

#### Other Features

<table>
<thead>
<tr>
<th>BIOS</th>
<th>Other Features</th>
<th>Thermal Control</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>PC Health Monitoring</th>
<th>Other Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI UEFI</td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M 2 NGFF connector, RoHS, System level control, WOL</td>
<td>1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M 2 NGFF connector, RoHS, System level control, WOL</td>
</tr>
<tr>
<td>AMI UEFI</td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M 2 NGFF connector, RoHS, System level control, WOL</td>
<td>1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M 2 NGFF connector, RoHS, System level control, WOL</td>
</tr>
<tr>
<td>AMI UEFI</td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M 2 NGFF connector, RoHS, System level control, WOL</td>
<td>1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M 2 NGFF connector, RoHS, System level control, WOL</td>
</tr>
</tbody>
</table>

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*Supermicro chassis required for optimal functionality and performance.

*For detailed memory configurations please refer to Supermicro website.
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<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSQ</th>
<th>X11SSQ-L</th>
<th>X11SSV-Q</th>
<th>X11SSV-LVDS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 91W Intel® H110 uATX 9.6” x 9.6”</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 91W Intel® Q170 Express</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 91W Intel® Q170 Express</td>
</tr>
<tr>
<td>Chipset Form Factor</td>
<td>uATX 9.6” x 9.6”</td>
<td>uATX 9.6” x 9.6”</td>
<td>uATX 9.6” x 9.6”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>uATX 9.6” x 9.6”</td>
<td>uATX 9.6” x 9.6”</td>
<td>uATX 9.6” x 9.6”</td>
<td>Mini-ITX 6.7” x 6.7” (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 64GB Unbuffered Non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 32GB Unbuffered Non-ECC UDIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.

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#### Quad 1GbE, AMT, vPro, VDI

<table>
<thead>
<tr>
<th>Model</th>
<th>X11SSV-M4</th>
<th>X11SSV-M4F</th>
<th>X11SBA-F</th>
<th>X11SBA-LN4F</th>
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<tbody>
<tr>
<td>Processor</td>
<td>Intel® Xeon® Processor E3-1515M v5</td>
<td>Intel® Xeon® Processor E3-1585 v5</td>
<td>Intel® Pentium® Processor N3700</td>
<td>-</td>
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<tr>
<td>Chipset</td>
<td>Intel® CM236</td>
<td>Intel® C236</td>
<td>System on Chip</td>
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<tr>
<td>Form Factor</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
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<tr>
<td>Memory</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Capacity &amp; Slots</td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>8GB Unbuffered non-ECC SO-DIMM, DDR3-1600 MHz, in 2 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
<td>1 PCI-E x 16</td>
<td>1 PCI-E x 16</td>
<td>1 PCI-E x 16</td>
<td>1 PCI-E x 16</td>
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<tr>
<td>Onboard RAID Controller</td>
<td>Intel® CM236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10</td>
<td>Intel® Pentium SoC controller for 2 SATA3 (6Gb/s) ports</td>
<td>-</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Single LAN with Intel® PHY I219LM LAN controller; Dual LAN with Intel® Ethernet Controller I210-AT;</td>
<td>Single LAN with Intel® PHY I219LM LAN controller; Dual LAN with Intel® Ethernet Controller I210-AT;</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Onboard VGA</td>
<td>Single VGA with Intel® Iris Pro Graphics P580</td>
<td>Single VGA with Intel® Iris Pro Graphics P580</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Onboard I/O Devices</td>
<td>24-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>24-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>24-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
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<tr>
<td>Model Options</td>
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<td>-</td>
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### Quad 1GbE, AMT, vPro, VDI

<table>
<thead>
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<th>Model</th>
<th>X11SSV-M4</th>
<th>X11SSV-M4F</th>
<th>X11SBA-F</th>
<th>X11SBA-LN4F</th>
</tr>
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<tbody>
<tr>
<td>Processor</td>
<td>Intel® Xeon® Processor E3-1515M v5</td>
<td>Intel® Xeon® Processor E3-1585 v5</td>
<td>Intel® Pentium® Processor N3700</td>
<td>-</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® CM236</td>
<td>Intel® C236</td>
<td>System on Chip</td>
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<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
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<td>Memory</td>
<td>-</td>
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<tr>
<td>Capacity &amp; Slots</td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
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<td>8GB Unbuffered non-ECC SO-DIMM, DDR3-1600 MHz, in 2 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
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<td>1 PCI-E x 16</td>
<td>1 PCI-E x 16</td>
<td>1 PCI-E x 16</td>
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<tr>
<td>Onboard RAID Controller</td>
<td>Intel® CM236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10</td>
<td>Intel® Pentium SoC controller for 2 SATA3 (6Gb/s) ports</td>
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<tr>
<td>Onboard LAN</td>
<td>Single LAN with Intel® PHY I219LM LAN controller; Dual LAN with Intel® Ethernet Controller I210-AT;</td>
<td>Single LAN with Intel® PHY I219LM LAN controller; Dual LAN with Intel® Ethernet Controller I210-AT;</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Onboard VGA</td>
<td>Single VGA with Intel® Iris Pro Graphics P580</td>
<td>Single VGA with Intel® Iris Pro Graphics P580</td>
<td>-</td>
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<td>Onboard I/O Devices</td>
<td>24-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>24-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>24-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
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</tr>
<tr>
<td>Model Options</td>
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### 4-core mITX, 6W SoC

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<tr>
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<th>X11SSV-M4</th>
<th>X11SSV-M4F</th>
<th>X11SBA-F</th>
<th>X11SBA-LN4F</th>
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<td>Processor</td>
<td>Intel® Xeon® Processor E3-1515M v5</td>
<td>Intel® Xeon® Processor E3-1585 v5</td>
<td>Intel® Pentium® Processor N3700</td>
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<td>Mini-ITX 6.7” x 6.7”</td>
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<td>-</td>
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<tr>
<td>Capacity &amp; Slots</td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>8GB Unbuffered non-ECC SO-DIMM, DDR3-1600 MHz, in 2 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
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<td>1 PCI-E x 16</td>
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<tr>
<td>Onboard RAID Controller</td>
<td>Intel® CM236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10</td>
<td>Intel® Pentium SoC controller for 2 SATA3 (6Gb/s) ports</td>
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<td>Onboard LAN</td>
<td>Single LAN with Intel® PHY I219LM LAN controller; Dual LAN with Intel® Ethernet Controller I210-AT;</td>
<td>Single LAN with Intel® PHY I219LM LAN controller; Dual LAN with Intel® Ethernet Controller I210-AT;</td>
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<tr>
<td>Onboard I/O Devices</td>
<td>24-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>24-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>24-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
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<tr>
<td>Model Options</td>
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1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
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<tr>
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<th>X11SSZ-TLN4F</th>
<th>X11SSZ-F</th>
<th>X11SSZ-QF</th>
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<td>Intel® Xeon® Processor E3-1200 v6/5 product</td>
<td>Intel® Xeon® Processor E3-1200 v6/5 product</td>
<td>Intel® Core™ Processor, Intel® Celeron®</td>
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<td>family, 7th/6th Generation Intel® Core™</td>
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<td>Intel® Q170</td>
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<td>64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-</td>
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<td>Slots†</td>
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<td>1 PCI-E 3.0 x16 (in x16 slot)</td>
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<td>Onboard RAID</td>
<td>Intel® C236 controller for 4 SATA3 (6Gb/s)</td>
<td>Intel® C236 controller for 4 SATA3 (6Gb/s)</td>
<td>Intel® Q170 controller for 4 SATA3 (6Gb/s)</td>
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<td>ports; RAID 0,1,5,10</td>
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<td>1GbE LAN with Intel® PHY I219LM;</td>
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<td>1 DVI-I</td>
<td>1 DVI-I</td>
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<td>3 Independent Displays</td>
<td>3 Independent Displays</td>
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<td>1 Aspeed AST2400 BMC VGA Port</td>
<td>1 Aspeed AST2400 BMC VGA Port</td>
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<td>4 USB 3.0 ports (2 rear + 2 via header)</td>
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<td>1 Port SuperDOM</td>
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<td>ALC 8885 HD Audio TPM Header</td>
<td>ALC 8885 HD Audio TPM Header</td>
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<td>2 COM Ports (2 headers)</td>
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<td>IPMI 2.0 + KVM with dedicated LAN, AMT, NMI,</td>
<td>IPMI 2.0 + KVM with dedicated LAN, AMT, NMI,</td>
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<td>SSM, SUM, SuperDoctor® 5 vPro, Watchdog</td>
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<td>PC Health</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby,</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby,</td>
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<td>Chassis intrusion header, Monitors CPU</td>
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<td>Supports system management utility, System</td>
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<td>voltages, Supports system management</td>
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<td>level control</td>
<td>utility, System level control</td>
<td>utility, System level control</td>
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<td>Thermal</td>
<td>6 4-pin, Fan speed control, Overheat LED</td>
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<td>Processor protection, Intel® Smart</td>
<td>Processor protection, Intel® Smart</td>
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<td>Response Technology, System level control</td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</table>

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
### MODEL

#### A3SEV-4C-LN4

- **Processor**: Intel® Atom® Processor x6425E  
  Single Socket FCBGA-1493 supported, CPU TDP supports up to 12W TDP
- **Chipset**: System on Chip
- **Form Factor**: Mini-ITX, 6.7" x 6.7" (17.02cm x 17.02cm)
- **Memory Capacity & Slots**: Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 X2 (in x8 slot)  
  1 M.2 B-Key SATA/PCI-E 3.0 x2/USB 3.0, 3042/2280  
  1 M.2 E-Key PCI-E 3.0 x1/USB 2.0, 2230
- **Onboard LAN**: Single LAN with Intel® Ethernet Controller I210IT  
  ONLY i210 support PXE  
  1 Port SuperDOM  
  TPM 2.0 Header & Chip both  
  4 COM Ports (4 headers); Supports RS232/422/485
- **Manageability**: SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Memory Voltages, System level control, System temperature, VBAT
- **BIOS**: AMI UEFI

#### A3SEV-2C-LN4

- **Processor**: Intel® Atom® Processor x6211E  
  Socket FCBGA-1493 supported, CPU TDP supports up to 6W TDP
- **Chipset**: System on Chip
- **Form Factor**: Mini-ITX, 6.7" x 6.7" (17.02cm x 17.02cm)
- **Memory Capacity & Slots**: Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 X2 (in x8 slot)  
  1 M.2 B-Key SATA/PCI-E 3.0 x2/USB 3.0, 3042/2280  
  1 M.2 E-Key PCI-E 3.0 x1/USB 2.0, 2230
- **Onboard LAN**: Single LAN with Intel® Ethernet Controller I210IT  
  ONLY i210 support PXE  
  1 Port SuperDOM  
  TPM 2.0 Header & Chip both  
  4 COM Ports (4 headers); Supports RS232/422/485
- **Manageability**: SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Memory Voltages, System level control, System temperature, VBAT
- **BIOS**: AMI UEFI

---

1. Supermicro chassis required for optimal functionality and performance.  
2. For detailed memory configurations please refer to Supermicro website.
### Embedded

**4-Core Denverton**

**Eight 1GbE RJ45**

Intel® Quick Assist Technology

- **Processor**: Intel® Atom® Processor C3558.
- **Chipset**: System on Chip
- **Form Factor**: Flex ATX, 9" x 7.25" (22.86cm x 18.42cm)
- **Optimized Chassis**: Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz
- **Memory Capacity & Slots**: 1 PCI-E 3.0 x2 (in x4 slot), Option for Slot 6 or Slot 7
- **Expansion Slots**: 1 PCI-E 3.0 x4, Option for Slot 6 or Slot 7
- **Onboard RAID Controller**: SoC controller for 3 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Quad LAN with Intel® C3000 SoC
- **Onboard VGA**: 1 VGA port, Aspeed AST2400 BMC
- **USB Ports**: 2 USB 2.0 ports (2 headers, Type A), 3 USB 3.0 ports (2 rear + 1 Type A)
- **Other Onboard I/O Devices**: TPM Header, 1 COM Port (1 header)
- **Manageability**: IPMI2.0, NMI, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +12V, +3.3V, +5V, +5V standby, 1.05V (PCH), 1.2V (VDDIMM), 3.3V standby, 5V -fan status, Chassis intrusion header, VBAT
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control
- **Other Features**: 4-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® Quick Assist Technology, M.2 NGFF connector, RoHS, UID
- **BIOS**: AMI UEFI

---

**8-Core Denverton**

**Eight 1GbE RJ45**

Intel® Quick Assist Technology

- **Processor**: Intel® Atom® Processor C3758.
- **Chipset**: System on Chip
- **Form Factor**: Flex ATX, 9" x 7.25" (22.86cm x 18.42cm)
- **Optimized Chassis**: Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz
- **Memory Capacity & Slots**: 1 PCI-E 3.0 x2 (in x4 slot), Option for Slot 6 or Slot 7
- **Expansion Slots**: 1 PCI-E 3.0 x4, Option for Slot 6 or Slot 7
- **Onboard RAID Controller**: SoC controller for 5 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Quad LAN with Intel® C3000 SoC
- **Onboard VGA**: 1 VGA port, Aspeed AST2400 BMC
- **USB Ports**: 2 USB 2.0 ports (2 headers, Type A), 3 USB 3.0 ports (2 rear + 1 Type A)
- **Other Onboard I/O Devices**: TPM Header, 1 COM Port (1 header)
- **Manageability**: IPMI2.0, NMI, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +12V, +3.3V, +5V, +5V standby, 1.05V (PCH), 1.2V (VDDIMM), 3.3V standby, 5V -fan status, Chassis intrusion header, VBAT
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control
- **Other Features**: 4-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® Quick Assist Technology, M.2 NGFF connector, RoHS, UID
- **BIOS**: AMI UEFI

---

**4-Core Denverton**

**Dual 1GbE SFP**

Intel® Quick Assist Technology

- **Processor**: Intel® Atom® Processor C3558.
- **Chipset**: System on Chip
- **Form Factor**: Flex ATX, 9" x 7.25" (22.86cm x 18.42cm)
- **Optimized Chassis**: Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz
- **Memory Capacity & Slots**: 1 PCI-E 3.0 x2 (in x4 slot), Option for Slot 6 or Slot 7
- **Expansion Slots**: 1 PCI-E 3.0 x4, Option for Slot 6 or Slot 7
- **Onboard RAID Controller**: SoC controller for 3 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Quad LAN with Intel® C3000 SoC
- **Onboard VGA**: 1 VGA port, Aspeed AST2400 BMC
- **USB Ports**: 2 USB 2.0 ports (2 headers, Type A), 3 USB 3.0 ports (2 rear + 1 Type A)
- **Other Onboard I/O Devices**: TPM Header, 1 COM Port (1 header)
- **Manageability**: IPMI2.0, NMI, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +12V, +3.3V, +5V, +5V standby, 1.05V (PCH), 1.2V (VDDIMM), 3.3V standby, 5V -fan status, Chassis intrusion header, VBAT
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control
- **Other Features**: 4-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® Quick Assist Technology, M.2 NGFF connector, RoHS, UID
- **BIOS**: AMI UEFI

---

**8-Core Denverton**

**Dual 1GbE SFP**

Intel® Quick Assist Technology

- **Processor**: Intel® Atom® Processor C3758.
- **Chipset**: System on Chip
- **Form Factor**: Flex ATX, 9" x 7.25" (22.86cm x 18.42cm)
- **Optimized Chassis**: Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz
- **Memory Capacity & Slots**: 1 PCI-E 3.0 x2 (in x4 slot), Option for Slot 6 or Slot 7
- **Expansion Slots**: 1 PCI-E 3.0 x4, Option for Slot 6 or Slot 7
- **Onboard RAID Controller**: SoC controller for 5 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Quad LAN with Intel® C3000 SoC
- **Onboard VGA**: 1 VGA port, Aspeed AST2400 BMC
- **USB Ports**: 2 USB 2.0 ports (2 headers, Type A), 3 USB 3.0 ports (2 rear + 1 Type A)
- **Other Onboard I/O Devices**: TPM Header, 1 COM Port (1 header)
- **Manageability**: IPMI2.0, NMI, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +12V, +3.3V, +5V, +5V standby, 1.05V (PCH), 1.2V (VDDIMM), 3.3V standby, 5V -fan status, Chassis intrusion header, VBAT
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control
- **Other Features**: 4-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® Quick Assist Technology, M.2 NGFF connector, RoHS, UID
- **BIOS**: AMI UEFI
Embedded/IoT Building Block Solutions - October 2021

**Embedded/IoT Building Block Solutions - October 2021**

- **Processor**
  - Intel® Atom® Processor C3958
  - Single Socket FCBGA1310 supported, CPU TDP support 31W TDP

- **Chipset**
  - System on Chip

- **Form Factor**
  - Mini-ITX 6.7" x 6.7" (17.02cm x 17.02cm)
  - Flex ATX 9.0" x 7.25" (22.86cm x 18.42cm)

- **Optimized Chassis**
  - Mini-ITX, 6.7" x 6.7" (17.02cm x 17.02cm)
  - Flex ATX 9.0" x 7.25", 9" x 7.25" (22.86cm x 18.42cm)

- **Memory Capacity & Slots**
  - 1 PCE-3.0 x4
  - 1 miniPCI-E 8 with mSATA supports (half card only)
  - M.2 Interface: PCI-E 3.0 x4 and SATA

- **Expansion Slots**
  - M.2 Form Factor: 2242, 2280
  - M.2 Key: M-Key

- **Onboard RAID Controller**
  - SoC controller for 4 SATA (6 Gbps)

- **Onboard VGA**
  - 1 VGA port, Aspeed AST2400 BMC

- **USB Ports**
  - 4 USB 2.0 ports (4 headers, Type A)
  - 2 USB 3.0 ports (4 x 1.5A)

- **Other Onboard I/O Devices**
  - TPM Header
  - 1 COM Port (1 header)

- **Manageability**
  - IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog +1.8V, +12V, +5V, 1.05V (PCH), 1.2V (VDDIMM), 4-fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, CGI

- **PC Health Monitoring**
  - 4x4-pin fan headers (up to 4 fans), 4x4-pin fan headers (up to 6 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors

- **Thermal Control**
  - 12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors

- **BIOS**
  - AMI UEFI

**MODEL**

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<tr>
<th>MODEL</th>
<th>A2SDi-16C-TP8F</th>
<th>A2SDV-16C-TLN5F</th>
<th>A2SDV-12C+-TLN5F</th>
<th>A2SDV-8C-TLN5F</th>
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<tr>
<td>Processor</td>
<td>Intel® Atom® Processor C3958</td>
<td>Intel® Atom® Processor C3958</td>
<td>Intel® Atom® Processor C3958</td>
<td>Intel® Atom® Processor C3958</td>
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<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
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<tr>
<td>Form Factor</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot;</td>
<td>Flex ATX 9.0&quot; x 7.25&quot;</td>
<td>Flex ATX 9.0&quot; x 7.25&quot;</td>
<td>Flex ATX 9.0&quot; x 7.25&quot;</td>
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<tr>
<td>Capacity &amp; Slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400 MHz, 4 in DIMM slots</td>
<td>Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, 4 in DIMM slots</td>
<td>Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, 4 in DIMM slots</td>
<td>Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2133 MHz</td>
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<td>USB 2.0 ports</td>
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<td>2 (headers, Type A)</td>
<td>4 (headers, Type A)</td>
<td>4 (headers, Type A)</td>
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<td>USB 3.0 ports</td>
<td>5 (1 Type A)</td>
<td>5 (1 Type A)</td>
<td>5 (1 Type A)</td>
<td>5 (1 Type A)</td>
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<td>Power Management</td>
<td>1 COM Port (1 header)</td>
<td>1 COM Port (1 header)</td>
<td>1 COM Port (1 header)</td>
<td>1 COM Port (1 header)</td>
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<tr>
<td>Manageability</td>
<td>IPMI2.0, NMI, SuperDoctor® S, Watchdog +12V, +3.3V, +5V, 1.05V standby, 1.05V (PCH), 1.2V (VDDIMM), 3.3V standby, 6-fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, CGI</td>
<td>IPMI2.0, NMI, SuperDoctor® S, Watchdog +12V, +3.3V, +5V, 1.05V standby, 1.05V (PCH), 1.2V (VDDIMM), 3.3V standby, 6-fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, CGI</td>
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## Model Comparison

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<th>MODEL</th>
<th>Processor†</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Optimized Chassis</th>
<th>Capacity &amp; Slots</th>
<th>Memory</th>
<th>USB Ports</th>
<th>Onboard RAID Controller</th>
<th>Onboard LAN</th>
<th>Onboard VGA</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
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</thead>
<tbody>
<tr>
<td>A2SAP-L</td>
<td>Intel® Atom® Processor E3940; up to 9.5W TDP</td>
<td>System on Chip</td>
<td>Pico-ITX 2.5&quot; SBC, 3.9&quot; x 2.8&quot; (9.91cm x 7.11cm)</td>
<td>Mini ITX; SCE50</td>
<td>Up to 8GB Unbuffered non-ECC SODIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
<td>128GB (6 Gbps) ports</td>
<td>2 USB 3.0 ports (2 rear)</td>
<td>N/A</td>
<td>Dual LAN with Intel® Ethernet Controller I210IT</td>
<td>1 HDMI port, 48-bit LVDS port, Dual channel 48-bit LVDS (max. resolution up to 1920x1200@60Hz), HDMI (max. resolution up to 3840x2160@30Hz), Intel® HD Graphics</td>
<td>ALC 8885 HD Audio (2 COM ports (headers): RB232/422/485; 1 HD Audio header (Mic-in/Headphone-out) (Note: Audio only support DC-60C, 8-bit GPIO)</td>
<td>1 x Mini-PCI-E (2 USB 2.0)</td>
</tr>
<tr>
<td>A2SAP-L1</td>
<td>Intel® Atom® Processor E3930; up to 6.5W TDP</td>
<td>System on Chip</td>
<td>Pico-ITX 2.5&quot; SBC, 3.9&quot; x 2.8&quot; (9.91cm x 7.11cm)</td>
<td>Mini ITX; SCE50</td>
<td>Up to 8GB Unbuffered non-ECC SODIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
<td>128GB (6 Gbps) ports</td>
<td>2 USB 3.0 ports (2 rear)</td>
<td>N/A</td>
<td>Dual LAN with Intel® Ethernet Controller I210IT</td>
<td>1 HDMI port, 48-bit LVDS port, Dual channel 48-bit LVDS (max. resolution up to 1920x1200@60Hz), HDMI (max. resolution up to 3840x2160@30Hz), Intel® HD Graphics</td>
<td>ALC 8885 HD Audio (2 COM ports (headers): RS232/422/485; 1 HD Audio header (Mic-in/Headphone-out) (Note: Audio only support DC-60C, 8-bit GPIO)</td>
<td>1 x Mini-PCI-E (2 USB 2.0)</td>
</tr>
<tr>
<td>A2SAP-E</td>
<td>Intel® Atom® Processor E3940; up to 9.5W TDP</td>
<td>System on Chip</td>
<td>Pico-ITX 2.5&quot; SBC, 4&quot; x 2.8&quot; (10.16cm x 7.19cm)</td>
<td>Mini ITX; SCE50</td>
<td>Up to 8GB Unbuffered non-ECC SODIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
<td>128GB (6 Gbps) ports</td>
<td>2 USB 3.0 ports (2 rear)</td>
<td>N/A</td>
<td>Dual LAN with Intel® Ethernet Controller I210IT</td>
<td>1 HDMI port, 48-bit LVDS port, Dual channel 48-bit LVDS (max. resolution up to 1920x1200@60Hz), HDMI (max. resolution up to 3840x2160@30Hz), Intel® HD Graphics</td>
<td>ALC 8885 HD Audio (2 COM ports (headers): RS232/422/485; 1 HD Audio header (Mic-in/Headphone-out) (Note: Audio only support DC-60C, 8-bit GPIO)</td>
<td>1 x Micro-PCI-E (USB 2.0 x1, PCI-E 2.0 x1)</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
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<th>MODEL</th>
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</thead>
<tbody>
<tr>
<td>A2SDi-16C-HLN4F</td>
<td>Intel® Atom™ Processor C3558. Single Socket FGCA310 supported, CPU TDP support up to 25W TDP System on Chip Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm) SC300</td>
</tr>
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<td>A2SDi-16C-HLN4F</td>
<td>Intel® Atom™ Processor C3558. Single Socket FGCA310 supported, CPU TDP support up to 25W TDP System on Chip Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm) SC300</td>
</tr>
<tr>
<td>A2SDi-BC-6LN4F</td>
<td>Intel® Atom™ Processor C3558. Single Socket FGCA310 supported, CPU TDP support up to 16W TDP System on Chip Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm) SC300</td>
</tr>
<tr>
<td>A2SDi-BC-8C-HLN4F</td>
<td>Intel® Atom™ Processor C3558. Single Socket FGCA310 supported, CPU TDP support up to 32W TDP System on Chip Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm) SC300</td>
</tr>
<tr>
<td>A2SDi-4C-HLN4F</td>
<td>Intel® Atom™ Processor C3358. Single Socket FGCA310 supported, CPU TDP support up to 32W TDP System on Chip Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm) SC300</td>
</tr>
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<td>A2SDi-2C-HLN4F</td>
<td>Intel® Atom™ Processor C3358. Single Socket FGCA310 supported, CPU TDP support up to 16W TDP System on Chip Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm) SC300</td>
</tr>
</tbody>
</table>

**Processor**
- **Intel® Atom™ Processor C3955.**
- **Intel® Atom™ Processor C3858.**
- **Intel® Atom™ Processor C3758.**

**Chipset**
- Mini-ITX 6.7" x 6.7" (17.02cm x 17.02cm)

**Form Factor**
- Mini-ITX

**Optimized Chassis**
- Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz
- Up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots

**Memory Capacity & Slots**
- Capacities & Slots*
- Thermal Control
- Manageability IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor5, SuperDoctor2, SuperDoctor1, Watchdog

**Onboard RAID Controller**
- SoC controller for 12 SATA3 (6 Gbps) ports;
- SoC controller for 12 SATA3 (6 Gbps) ports;
- SoC controller for 12 SATA3 (6 Gbps) ports;

**Onboard LAN**
- Quad LAN with Intel® C3000 SoC 1GbE
- Quad LAN with Intel® C3000 SoC 1GbE
- Quad LAN with Intel® C3000 SoC 1GbE

**Onboard VGA**
- 1 VGA port
- 1 VGA port
- 1 VGA port

**USB Ports**
- 4 USB 2.0 ports (2 rear + 2 headers)
- 4 USB 2.0 ports (2 rear + 2 headers)
- 4 USB 2.0 ports (2 rear + 2 headers)

**Other Onboard I/O Devices**
- 1 COM Port (1 header)
- 1 COM Port (1 header)
- 1 COM Port (1 header)

**Manageability**
- IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor5, SuperDoctor2, SuperDoctor1, Watchdog
- IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor5, SuperDoctor2, SuperDoctor1, Watchdog
- IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor5, SuperDoctor2, SuperDoctor1, Watchdog

**PC Health Monitoring**
- Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT
- Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT
- Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT

**Thermal Control**
- Support 3-pin fans (w/o speed control), System level control, Thermal control thermochamber fan connectors
- Support 3-pin fans (w/o speed control), System level control, Thermal control thermochamber fan connectors
- Support 3-pin fans (w/o speed control), System level control, Thermal control thermochamber fan connectors

**12V DC or ATX Power Source**
- 4-pin 12V DC power connector, ATX Power connector
- 4-pin 12V DC power connector, ATX Power connector
- 4-pin 12V DC power connector, ATX Power connector

**Other Features**
- Power connector, Chassis intrusion detection, Power connector, Chassis intrusion detection, Power connector, Chassis intrusion detection
- Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Power connector, Chassis intrusion detection, Power connector, Chassis intrusion detection
- Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Power connector, Chassis intrusion detection, Power connector, Chassis intrusion detection

**BIOS**
- AMI UEFI
- AMI UEFI
- AMI UEFI
# Embedded

<table>
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<tr>
<th>MODEL</th>
<th>A2SDi-TP8F</th>
<th>A2SDi-LN4F</th>
<th>A2SDi-H-TF</th>
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</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Atom™ Processor C3858; FCBGA1310 supported, CPU TDP support 25W</td>
<td>Intel® Atom™ Processor C3855; Single Socket FCBGA1310 supported, CPU TDP support 25W</td>
<td>Intel® Atom™ Processor C3758, 31W; Single Socket FCBGA1310 supported</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x4 1 miniPCI-E with mSATA supports (half card only) M.2 Interface: PCI-E 3.0 x4 and SATA M.2 Form Factor: 2242, 2280 M.2 Key: M-Key</td>
<td>1 PCI-E 3.0 x4 miniPCI-E with mSATA supports (half card only) M.2 Interface: PCI-E 3.0 x4 and SATA M.2 Form Factor: 2242, 2280 M.2 Key: M-Key</td>
<td>1 PCI-E 3.0 x4 M.2 Interface: PCI-E 3.0 x2 and SATA M.2 Form Factor: 2242, 2280 M.2 Key: M-Key</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 12 SATA3 (6 Gbps) ports;</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>TP8F: Quad LAN with Intel® C3000 SoC 2 10G BaseT, 2 10Gb SFP+</td>
<td>LN4F: Quad LAN with Intel® Ethernet Controller i350-AM4 GBE</td>
<td>-TP8F: Quad LAN with Intel® C3000 SoC 2 10G BaseT, 2 10Gb SFP+</td>
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<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
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<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (headers), 2 USB 3.0 ports (2 rear)</td>
<td>4 USB 2.0 ports (4 headers), 2 USB 3.0 ports (2 rear)</td>
<td>4 USB 2.0 ports (2 rear + 2 headers), 1 USB 3.0 ports (+1 Type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header),</td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header),</td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header),</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>IPMI 2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, NMI, SuperDoctor® S, Watchdog</td>
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<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), 4-fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VGCI</td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), 4-fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VGCI</td>
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</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>4x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
<td>4x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
<td>4x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>12V DC or ATX Power Source, 4-pin 12V ATX power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 4-pin 12V ATX power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, RoHS, SDDC, System level control, UID, WOL</td>
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**BIOS**
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<td>Chipset</td>
<td>System on Chip</td>
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<tr>
<td>Form Factor</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
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<td>Optimized Chassis</td>
<td>SC101S</td>
<td>SC101i</td>
<td>SC101iF</td>
<td>SC101S</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to, DDR3-1866 MHz, in 1 DIMM slot</td>
<td>Up to, DDR3-1866 MHz, in 1 DIMM slot</td>
<td>Up to 8GB 1866 MHz DDR3L Non-ECC SO-DIMM in 1 socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 2.0 x2 (in x8 slot)</td>
<td>1 PCI-E 2.0 x2 (in x8 slot)</td>
<td>1 PCI-E 2.0 x2 (in x8 slot)</td>
<td>1 PCI-E 2.0 x2 (in x8 slot)</td>
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<td>Onboard RAID Controller</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports;</td>
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<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® Ethernet Controller I210T</td>
<td>Dual LAN with Intel® Ethernet Controller I210T</td>
<td>Dual LAN with Intel® Ethernet Controller I210T</td>
<td>Dual LAN with Intel® Ethernet Controller I210T</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, Intel® HD Graphics</td>
</tr>
<tr>
<td>USB Ports</td>
<td>8 USB 2.0 ports (2 rear + 5 headers + 1 Type A)</td>
<td>4 USB 2.0 ports (2 rear + 2 headers)</td>
<td>4 USB 2.0 ports (2 rear)</td>
<td>8 USB 2.0 ports (2 rear + 5 headers + 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 Port SuperDOM, ALC 888S HD Audio, 3 COM Ports (1 rear, 2 headers)</td>
<td>1 Port SuperDOM, 3 COM Ports (1 rear, 2 headers)</td>
<td>1 Port SuperDOM, 3 COM Ports (1 rear, 2 headers)</td>
<td>1 Port SuperDOM, ALC 888S HD Audio, 3 COM Ports (1 rear, 2 headers)</td>
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<tr>
<td>Manageability</td>
<td>SuperDoctor®, Watchdog</td>
<td>SuperDoctor®, Watchdog</td>
<td>SuperDoctor®, Watchdog</td>
<td>SuperDoctor®, Watchdog</td>
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<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control</td>
<td>+12V, +5V, +5V standby</td>
<td>+12V, +5V, +5V standby</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control</td>
</tr>
<tr>
<td>Other Features</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>12V DC or ATX Power Source, 4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</tbody>
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† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SAN-LN4-E</th>
<th>A2SAN-LN4-C</th>
<th>X11SAN-WOHS</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Atom® Processor E3940; up to 9.5W TDP</td>
<td>Intel® Celeron® Processor J3455; up to 10W TDP</td>
<td>Intel® Pentium™ Processor N4200; up to 6W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>3.5&quot; SBC, 5.866&quot; x 4.17&quot; (14.9cm x 10.6cm)</td>
<td>3.5&quot; SBC, 5.87&quot; x 4.17&quot; (14.9cm x 10.6cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>M.2 Key: B-Key, E-Key; 1 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder (support SATA upon request)</td>
<td>M.2 Key: B-Key, E-Key; 1 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder (support SATA upon request)</td>
<td>1 Full size Mini-PCI-E (USB2.0, 1 Pci-E Gen2 x 1) 1 M.2 Interface: SATA and Pci-E Gen2.0 x1 and USB 2.0 M.2 Form Factor: 2280 M.2 Key: B-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports;</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Quad LAN with Intel® Ethernet Controller I210IT</td>
<td>Quad LAN with Intel® Ethernet Controller I211-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 HDMI port, Intel® HD Graphics</td>
<td>1 HDMI port, Intel® HD Graphics</td>
<td>1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2.0 ports (2 via headers)</td>
<td>2 USB 2.0 ports (2 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port (1 header); (1 x RS232) 1 8-bit GPIO header 1 SMBus header 1 System Fan 4 onboard M.2 active LED 4 onboard GbE LAN active LED</td>
<td>1 COM Port (1 header); (1 x RS232) 1 SMBus header 1 System Fan 4 onboard M.2 active LED 4 onboard GbE LAN active LED</td>
<td>ALC 8885 HD Audio TPM 2.0 Chip 4 COM Ports (2 headers); (2 RS232, 2 RS232/422/485, RS-485 supports Auto flow control) 1 HD Audio header (Mic-in/headphone-Out)(Audio only support at 0~60C) 1 8-bit GPIO header 1 SMBus header 1 Panel backlight power header 1 Speaker 1 system Fan</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI</td>
<td>+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI</td>
<td>+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>8-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature</td>
<td>8-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature</td>
<td>8-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature</td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
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<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
### MODEL

| MODEL         | Processor†       | Chipset             | Form Factor | Memory Capacity & Slots*   | Expansion Slots       | Onboard LAN       | Onboard VGA       | USB Ports                          | Other Onboard I/O Devices                                      | Manageability                                      | PC Health Monitoring                          | Thermal Control                                      | Other Features                              | BIOS         |
|---------------|-----------------|---------------------|-------------|----------------------------|------------------------|-------------------|------------------|---------------------|----------------------------------|------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------|-----------------------------------------------|-------------|-------------|
| A2SAN-H       | Intel® Atom® Processor E3940; up to 9.5W TDP | System on Chip | 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm) | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1666 MHz, in 1 DIMM slot | M.2 2280 B-Key (PCI-E x 2.0 x 1 and USB 2.0) | I210-AT | 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics | 4 USB 2.0 ports (4 via headers, Type A) | 1 HD Audio header (Mic-in/Headphone-Out) | SuperDoctor® S, Watchdog (+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VGA) | 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors | 4-pin 12v DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL: 0°C to 60°C Operating Temperature | AMI UEFI | 1 8-bit GPIO header | 1 Speaker | 1 System Fan | A2SAN-H-WOHS |
| A2SAN-H-WOHS  | Intel® Atom® Processor E3940; up to 9.5W TDP | System on Chip     | 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm) | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1666 MHz, in 1 DIMM slot | M.2 2280 B-Key (PCI-E x 2.0 x 1 and USB 2.0) | I210-AT | 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics | 4 USB 2.0 ports (4 via headers) | 1 HD Audio header (Mic-in/Headphone-Out) | SuperDoctor® S, Watchdog (+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VGA) | 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors | 4-pin 12v DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL: 0°C to 60°C Operating Temperature | AMI UEFI | 1 Speaker | 1 System Fan | A2SAN-E-WOHS |
| A2SAN-E-WOHS  | Intel® Atom® Processor E3940; up to 9.5W TDP | System on Chip     | 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm) | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1666 MHz, in 1 DIMM slot | M.2 2280 B-Key (PCI-E x 2.0 x 1 and USB 2.0) | I210-AT | 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics | 4 USB 2.0 ports (4 via headers) | 1 HD Audio header (Mic-in/Headphone-Out) | SuperDoctor® S, Watchdog (+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VGA) | 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors | 4-pin 12v DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL: 0°C to 60°C Operating Temperature | AMI UEFI | 1 Speaker | 1 System Fan | A2SAN-L-WOHS |
| A2SAN-L-WOHS  | Intel® Atom® Processor E3930; up to 6.5W TDP | System on Chip     | 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm) | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1666 MHz, in 1 DIMM slot | M.2 2280 B-Key (PCI-E x 2.0 x 1 and USB 2.0) | I210-AT | 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics | 4 USB 2.0 ports (4 via headers, Type A) | 1 HD Audio header (Mic-in/Headphone-Out) | SuperDoctor® S, Watchdog (+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VGA) | 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors | 4-pin 12v DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL: 0°C to 60°C Operating Temperature | AMI UEFI | 1 Speaker | 1 System Fan | A2SAN-L-E |
| A2SAN-E-L     | Intel® Atom® Processor E3930; up to 6.5W TDP | System on Chip     | 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm) | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1666 MHz, in 1 DIMM slot | M.2 2280 B-Key (PCI-E x 2.0 x 1 and USB 2.0) | I210-AT | 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics | 4 USB 2.0 ports (4 via headers, Type A) | 1 HD Audio header (Mic-in/Headphone-Out) | SuperDoctor® S, Watchdog (+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VGA) | 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors | 4-pin 12v DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL: 0°C to 60°C Operating Temperature | AMI UEFI | 1 Speaker | 1 System Fan | A2SAN-L-E |
| A1SQN-E       | Intel® Quark™ SoC X1021 Single Socket FCBGA393; CPU TDP support up to 2.2W | System on Chip     | Proprietary | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1666 MHz, in 1 DIMM slot | M.2 2280 B-Key (PCI-E x 2.0 x 1 and USB 2.0) | I210-AT | 2 USB 2.0 ports (rear + ) | 2 USB 2.0 ports (2 rear + ) | 1 HD Audio header (Mic-in/Headphone-Out/Audio only support at 0~60°C) | TP2 on-board | 2 COM Ports (1 rear, 1 header) | RS232 with DB9, KS485 and Analog input from terminal interface | 1 Full size Mini-PCI-E (USB 2.0 x1, PCI-E 2.0 x1) | 1 8-bit GPIO header | 1 Speaker | 1 System Fan | A1SQN-E |

<table>
<thead>
<tr>
<th>Low Power</th>
<th>Low Power</th>
<th>Low Power</th>
<th>IoT Gateway</th>
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</thead>
</table>

* Supermicro chassis required for optimal functionality and performance.

† Detailed memory configurations refer to Supermicro website.

* For detailed memory configurations please refer to Supermicro website.
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Atom™ Processor C2758, Intel® Atom™ Processor C2558 &amp; Intel® Atom™ Processor C2358 product families; Single Socket FCGBA1283 supported; CPU TDP support up to 20W / 15W/7W</td>
<td>Intel® Atom™ Processor C2750 &amp; Intel® Atom™ Processor C2550 product families; Single Socket FCGBA1283 supported; CPU TDP support up to 20W / 14W</td>
<td>Intel® Atom™ Processor C2750 Single Socket FCGBA1283 supported; CPU TDP support 20W</td>
<td>Intel® Atom™ Processor C2550 Single Socket FCGBA1283 supported; CPU TDP support 20W</td>
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<tr>
<td>Chipset</td>
<td>SoC (System on Chip)</td>
<td>SoC (System on Chip)</td>
<td>SoC (System on Chip)</td>
<td>SoC (System on Chip)</td>
<td>SoC 813MTQ-202CB</td>
<td>SoC 813MTQ-350CB</td>
<td>SoC 813MTQ-202CB</td>
<td>SoC 813MTQ-202CB</td>
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<td>Form Factor</td>
<td>Mini-ITX 6.75&quot; x 6.75&quot;</td>
<td>Mini-ITX 6.75&quot; x 6.75&quot;</td>
<td>Micro-ATX 9.6&quot; x 7.5&quot;</td>
<td>Micro-ATX 9.6&quot; x 7.5&quot;</td>
<td>Micro-ATX 9.6&quot; x 7.5&quot;</td>
<td>Micro-ATX 9.6&quot; x 7.5&quot;</td>
<td>Micro-ATX 9.6&quot; x 7.5&quot;</td>
<td>Micro-ATX 9.6&quot; x 7.5&quot;</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>2758/2558: up to 64GB Unbuffered ECC SO-DIMM, DDR3-1600 MHz, in 4 slots; -2358: up to 16GB Unbuffered ECC SO-DIMM, DDR3-1333MHz, in 2 slots</td>
<td>Up to 64GB ECC SO-DIMM in 4 slots</td>
<td>Up to 64GB ECC SO-DIMM in 4 slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR3-1600 MHz, in 4 DIMM slots</td>
<td>x8 Width only</td>
<td>x8 Width only</td>
<td>x8 Width only</td>
<td>x8 Width only</td>
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<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 2.0 x8</td>
<td>1 PCI-E 2.0 x8</td>
<td>1 PCI-E 2.0 x8</td>
<td>1 PCI-E 2.0 x8</td>
<td>1 PCI-E 2.0 x8</td>
<td>1 PCI-E 2.0 x8</td>
<td>1 PCI-E 2.0 x8</td>
<td>1 PCI-E 2.0 x8</td>
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<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 4 SATA2 (3Gb/s) ports; 2 SATA3 (6Gb/s) ports; 2 SATA3 (6Gb/s); 2 SATA2 (3Gb/s)</td>
<td>SoC controller for 4 SATA2 (3Gb/s) ports; 2 SATA3 (6Gb/s) ports; 2 SATA3 (6Gb/s); 2 SATA2 (3Gb/s)</td>
<td>SoC controller for 4 SATA2 (3Gb/s) ports; 2 SATA3 (6Gb/s) ports; 2 SATA3 (6Gb/s); 2 SATA2 (3Gb/s)</td>
<td>SoC controller for 4 SATA2 (3Gb/s) ports; 2 SATA3 (6Gb/s) ports; 2 SATA3 (6Gb/s); 2 SATA2 (3Gb/s)</td>
<td>SoC controller for 4 SATA2 (3Gb/s) ports; 2 SATA3 (6Gb/s) ports; 2 SATA3 (6Gb/s); 2 SATA2 (3Gb/s)</td>
<td>SoC controller for 4 SATA2 (3Gb/s) ports; 2 SATA3 (6Gb/s) ports; 2 SATA3 (6Gb/s); 2 SATA2 (3Gb/s)</td>
<td>SoC controller for 4 SATA2 (3Gb/s) ports; 2 SATA3 (6Gb/s) ports; 2 SATA3 (6Gb/s); 2 SATA2 (3Gb/s)</td>
<td>SoC controller for 4 SATA2 (3Gb/s) ports; 2 SATA3 (6Gb/s) ports; 2 SATA3 (6Gb/s); 2 SATA2 (3Gb/s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 3.0 ports (2 rear + 1 via header + 1 Type A); 2 USB 2.0 ports (2 rear)</td>
<td>4 USB 3.0 ports (2 rear + 1 via header + 1 Type A); 2 USB 2.0 ports (2 rear)</td>
<td>4 USB 3.0 ports (2 rear + 1 via header + 1 Type A); 2 USB 2.0 ports (2 rear)</td>
<td>4 USB 3.0 ports (2 rear + 1 via header + 1 Type A); 2 USB 2.0 ports (2 rear)</td>
<td>7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)</td>
<td>7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)</td>
<td>7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)</td>
<td>7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 SATA DOM power connector 2 COM Ports (1 Rear, 1 header) TPM header</td>
<td>2 COM ports (1 rear, 1 header) 1 TPM header</td>
<td>2 COM ports (1 rear, 1 header) 1 TPM header</td>
<td>1 SATA DOM power connector 2 fast UART 16550 serial; TPM Header 2 COM Ports (1 rear, 1 header) Support one SMC SATA DOM</td>
<td>1 SATA DOM power connector 2 fast UART 16550 serial; TPM Header 2 COM Ports (1 rear, 1 header) Support one SMC SATA DOM</td>
<td>1 SATA DOM power connector 2 fast UART 16550 serial; TPM Header 2 COM Ports (1 rear, 1 header) Support one SMC SATA DOM</td>
<td>1 SATA DOM power connector 2 fast UART 16550 serial; TPM Header 2 COM Ports (1 rear, 1 header) Support one SMC SATA DOM</td>
<td>1 SATA DOM power connector 2 fast UART 16550 serial; TPM Header 2 COM Ports (1 rear, 1 header) Support one SMC SATA DOM</td>
</tr>
<tr>
<td>Manageability</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SuperDoctor* 5, SSM, Watchdog Monitors CPU voltages, +1.8V, +12V, +3.3V, +5V, +5V Standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SSM, SuperDoctor* 5, SSM, Watchdog Monitors CPU voltages, +1.8V, +12V, +3.3V, +5V, +5V Standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SuperDoctor* 5, SSM, Watchdog Monitors CPU voltages, +1.8V, +12V, +3.3V, +5V, +5V Standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SuperDoctor* 5, SSM, Watchdog Monitors CPU voltages, +1.8V, +12V, +3.3V, +5V, +5V Standby, Chassis intrusion header, Supports system management utility, System level control</td>
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<tr>
<td>PC Health Monitoring</td>
<td>3x 4-pin fan headers (up to 3 fans), Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3x 4-pin fan headers (up to 3 fans), Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3x 4-pin fan headers (up to 3 fans), Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Thermal Control</td>
<td>3 4-pin DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, UID, WOL, 0°C - 60°C operating temperature, Intel® QuickAssist Technology</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, UID, WOL, 0°C - 60°C operating temperature</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, UID, WOL, 0°C - 60°C operating temperature</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, UID, WOL, 0°C - 60°C operating temperature</td>
<td></td>
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<tr>
<td>Other Features</td>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

* Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
## Embedded/IoT Building Block Solutions - October 2021

### Processor
- **Intel® Atom™ Processor C2758 & Intel® Atom™ Processor C2358 product families; Single Socket FCBGA1283 supported; CPU TDP support up to 20W/7W**

### Chipset
- **SoC (System on Chip)**

### Form Factor
- **Micro-ATX 8.0” x 9.6”**

### Optimized Chassis
- **SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6Gb/s)**

### Memory Capacity & Slots
- **-2758: 64GB Unbuffered ECC/non-ECC UDIMM, DDR3-1600 MHz, in 4 DIMM slots; x8 Width only**
- **-2558: 64GB Unbuffered ECC/non-ECC UDIMM, DDR3-1600 MHz, in 4 DIMM slots; x8 Width only**
- **-2358: 16GB Unbuffered ECC/non-ECC UDIMM, DDR3-1600 MHz, in 2 DIMM slots; x8 Width only**

### Expansion Slots
- **1 PCI-E 2.0 x4 (in x8 slot)**
- **1 PCI-E 2.0 x4 (in x8 slot)**
- **1 PCI-E 2.0 x4 (in x8 slot)**

### Onboard RAID Controller
- **SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6Gb/s)**
- **SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6Gb/s)**
- **SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6Gb/s)**

### Onboard LAN
- **Quad LAN with Intel® C2000 SoC, 2 pairs LAN bypass; Single LAN with Intel® Ethernet Controller i210-AT**
- **Quad LAN with Intel® C2000 SoC, 2 pairs LAN bypass; Single LAN with Intel® Ethernet Controller i210-AT**
- **Quad LAN with Intel® C2000 SoC, 2 pairs LAN bypass; Single LAN with Intel® Ethernet Controller i210-AT**

### Onboard VGA
- **VGA, Aspeed AST2400 BMC**
- **VGA, Aspeed AST2400 BMC**
- **VGA, Aspeed AST2400 BMC**

### USB Ports
- **7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)**
- **7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)**
- **7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)**

### Other Onboard I/O Devices
- **SuperDOM TPM header 2 COM Ports (1 rear, 1 header)**
- **SuperDOM TPM header 2 COM Ports (1 rear, 1 header)**
- **SuperDOM TPM header 2 COM Ports (1 rear, 1 header)**

### Manageability
- **IPMI 2.0 + KVM with shared i210 LAN, NMI, SuperDoctor® 5, SSM, Watchdog**
- **IPMI 2.0 + KVM with shared i210 LAN, NMI, SuperDoctor® 5, SSM, Watchdog**
- **IPMI 2.0 + KVM with shared i210 LAN, NMI, SuperDoctor® 5, SSM, Watchdog**

### PC Health Monitoring
- **+1.8V, +12V, +3.3V, +5V standby, Chassis intrusion header, Supports system management utility, System level control**
- **+1.8V, +12V, +3.3V, +5V standby, Chassis intrusion header, Supports system management utility, System level control**
- **+1.8V, +12V, +3.3V, +5V standby, Chassis intrusion header, Supports system management utility, System level control**

### Thermal Control
- **3 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors**
- **3 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors**
- **3 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors**

### Other Features
- **4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Inte® QuickAssist Technology, System level control, UID, WOL, 0°C -60°C operating temperature**
- **4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Inte® QuickAssist Technology, System level control, UID, WOL, 0°C -60°C operating temperature**
- **4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Inte® QuickAssist Technology, System level control, UID, WOL, 0°C -60°C operating temperature**

### BIOS
- **AMI UEFI**
- **AMI UEFI**
- **AMI UEFI**

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† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X10SDV-16C-TLN4F+</th>
<th>X10SDV-12C-TLN4F</th>
<th>X10SDV-8C-TLN4F</th>
<th>X10SDV-4C-TLN4F</th>
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</thead>
<tbody>
<tr>
<td>Processors†</td>
<td>Intel® Xeon® Processor D product family, Single Socket FCGBA 1667 supported; 16C-D:1557, 24MB, 16 Core, 45W; 12C-D:1557, 18MB, 12 Core, 45W; 8C-D:1537, 12MB, 8 Core, 35W;</td>
<td>Intel® Xeon® Processor D product family, Single Socket FCGBA 1667 supported; 16C-D:1557, 24MB, 16 Core, 45W; 12C-D:1557, 18MB, 12 Core, 45W; 8C-D:1514, 12MB, 8 Core, 45W; 6C-D:1528, 6MB, 6 Core, 35W; 4C-D:1508, 3MB, 2 Core, 25W; with Passive Heatsink</td>
<td>Intel® Xeon® Processor D product family, Single Socket FCGBA 1667 supported; 4C-D:1520/1521, 6MB, 4 Core, 45W; 2C-D:1508, 3MB, 2 Core, 25W; with Passive Heatsink</td>
<td>Intel® Xeon® Processor D product family, Single Socket FCGBA 1667 supported; 8C-D:1541, 8 Core, 45W;CPU TDP support 45W; -8C+: with Active Heatsink</td>
</tr>
<tr>
<td>Chipset</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
</tr>
<tr>
<td>Form Factor</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 128GB Registered ECC RDIMM, DDR4-2133 MHz, or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>1 PCI-E x8, 1 PCI-E x4, M.2 Key 2242/2280</td>
<td>Up to 128GB ECC RDIMM, or 64GB ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, or 64GB ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>M.2 PCI-E 3.0 x8, M.2 Key 2242/2280</td>
<td>M.2 PCI-E 3.0 x4, M.2 Key 2242/2280</td>
<td>M.2 PCI-E 3.0 x4</td>
<td>M.2 Key 2242/2280</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 6 SATA3 (6Gb/s) ports; RAID 0,1,5,10, RSTe</td>
<td>SoC controller for 6 SATA3 (6Gb/s) ports; RAID 0,1,5,10 RSTe</td>
<td>Dual 1GBase-T with SoC</td>
<td>SoC controller for 6 SATA3 (6Gb/s) ports; RSTe, Intel® Raid 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® Ethernet Controller I350-AM2</td>
<td>Dual 1GBase-T with SoC</td>
<td>Dual 1GBase-T with SoC</td>
<td>Dual 1GBE LAN with Intel® I350-AM2</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA via Aspeed AST2400 BMC</td>
<td>1 VGA via Aspeed AST2400 BMC</td>
<td>1 VGA via Aspeed AST2400 BMC</td>
<td>1 VGA via Aspeed AST2400 BMC</td>
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<tr>
<td>USB Ports</td>
<td>2 USB 2.0 ports (+ 2 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM 1.2 Header, 1 Port SuperD</td>
<td>TPM Header, 1 Port SuperD</td>
<td>TPM Header, 1 Port SuperD</td>
<td>TPM Header, 1 Port SuperD</td>
</tr>
<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Redfish 1.0 + IPMI 2.0 + KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Redfish 1.0 + IPMI 2.0 + KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Redfish 1.0 + IPMI 2.0 + KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
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<tr>
<td>PC Health Monitoring</td>
<td>4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Fan tachometer fan connectors</td>
<td>4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Fan tachometer fan connectors</td>
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<td>4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Fan tachometer fan connectors</td>
</tr>
<tr>
<td>Other Features</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, M.2 NGFF connector, Node Manager Support, SDDC, System level control, UID, WOL</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, M.2 NGFF connector, Node Manager Support, SDDC, System level control, UID, WOL</td>
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</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</tbody>
</table>

*Supermicro chassis required for optimal functionality and performance.

† For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th><strong>Intel® Xeon® Processor D SoC</strong></th>
<th><strong>Intel® Xeon® Processor D SoC</strong></th>
<th><strong>Intel® Xeon® Processor D SoC</strong></th>
<th><strong>Intel® Xeon® Processor D SoC</strong></th>
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<tbody>
<tr>
<td><strong>X10SDV-TLN4F</strong></td>
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<tr>
<td><strong>X10SDV-16C-TLN4F</strong></td>
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<td><strong>X10SDV-6C-TLN4F</strong></td>
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<td><strong>X10SDV-4C-TLN4F</strong></td>
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<td><strong>X10SDV-2C-TP8F</strong></td>
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</table>

**Intel® Xeon® Processor D product family:** Single Socket FCBGA 1667 supported; D-1541, 12MB, 8 Core, 45W; 16C: Intel® Xeon® Processor D-1587, 24MB, 16 Core, 65W; 6C: Intel® Xeon® Processor D-1528, 9MB, 6 Core, 35W; 4C: Intel® Xeon® Processor D-1518, 6MB, 4 Core, 35W; with Active HeatSink.

**Optimized Chassis:**

<table>
<thead>
<tr>
<th>X10SDV-TLN4F</th>
<th>SC72TTQ-250B</th>
<th>SC6300</th>
<th>SC504-203B</th>
<th>SC505-203B</th>
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<tr>
<td><strong>X10SDV-16C-TLN4F</strong></td>
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<td>SC6300</td>
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<td><strong>X10SDV-6C-TLN4F</strong></td>
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<td>SC6300</td>
<td>SC504-203B</td>
<td>SC505-203B</td>
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</table>

**Memory & Capacity:**

<table>
<thead>
<tr>
<th>X10SDV-TLN4F</th>
<th>Up to 128GB ECC RDIMM, or 64GB ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</th>
<th>Up to 128GB ECC RDIMM, or 64GB ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</th>
<th>Up to 128GB ECC RDIMM, or 64GB ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</th>
<th>Up to 128GB ECC RDIMM, or 64GB ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>X10SDV-16C-TLN4F</strong></td>
<td>2 PCl-E 3.0 x8</td>
<td>3 PCl-E 3.0 x8</td>
<td>3 PCl-E 3.0 x8</td>
<td>3 PCl-E 3.0 x8</td>
</tr>
<tr>
<td><strong>X10SDV-6C-TLN4F</strong></td>
<td>M.2 PCl-E 3.0 x4, M Key 2222/2220</td>
<td>M.2 PCl-E 3.0 x4, M Key 2222/2220</td>
<td>M.2 PCl-E 3.0 x4, M Key 2222/2220</td>
<td>M.2 PCl-E 3.0 x4, M Key 2222/2220</td>
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<tr>
<td><strong>X10SDV-4C-TLN4F</strong></td>
<td>1 PCI-E 3.0 x16, 2 M.2 3.0 x4, 6 M.2 Key 2222/2220</td>
<td>1 PCI-E 3.0 x16, 2 M.2 3.0 x4, 6 M.2 Key 2222/2220</td>
<td>1 PCI-E 3.0 x16, 2 M.2 3.0 x4, 6 M.2 Key 2222/2220</td>
<td>1 PCI-E 3.0 x16, 2 M.2 3.0 x4, 6 M.2 Key 2222/2220</td>
</tr>
</tbody>
</table>

**Onboard RAID Controller:**

- SoC controller for 4 SATA3 (6Gb/s) ports; RSTe, Intel® Raid 0, 1, 5, 10
- Dual 10Gbase-T with SoC
- Dual 1GBE LAN with Intel® i350-AM2; Quad 1GBE LAN with Intel® i350-AM2
- Dual 10GBE SFP+ from SoC; Dual 1GBE LAN with Intel® i350-AM2; Intel® i350-AM2-AM3;

**Onboard LAN:**

- Dual 10Gbase-T with SoC
- Dual 1GBE LAN with Intel® i350-AM2; Quad 1GBE LAN with Intel® i350-AM2

**Supported IDE Devices:**

- 2x USB 3.0 ports (2 rear); 2x USB 3.0 ports (2 rear)
- 2x USB 3.0 ports (2 rear);
- 2x USB 3.0 ports (2 rear)

**Other Onboard I/O Devices:**

- 1 Port SuperDOM
- 1 Port SuperDOM
- 2x USB 3.0 ports (2 rear); 2x USB 3.0 ports (2 rear)

**Other Features:**

- 4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, M.2 NGFF connector, Node Manager Support, SDDC, System level control, UID, WOL
- 4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, M.2 NGFF connector, Node Manager Support, SDDC, System level control, UID, WOL
- 4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, M.2 NGFF connector, Node Manager Support, SDDC, System level control, UID, WOL

**BIOS:**

- AMI UEFI
- AMI UEFI
- AMI UEFI

**Embedded/IoT Building Block Solutions - October 2021**

- Flex ATX 9.0” x 7.25”
- Flex ATX 9.0” x 7.25”
- Flex ATX 9.0” x 7.25”

**Supported Form Factors:**

- Mini-ITX 6.7” x 6.7”
- Flex ATX 9.0” x 7.25”
- Flex ATX 9.0” x 7.25”
- Flex ATX 9.0” x 7.25”
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X10SDV-4C+–TP4F</th>
<th>X10SBA-L</th>
<th>X10SLQ</th>
<th>X10SLV-Q</th>
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</thead>
<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Xeon® Processor D-1518, 4 Core, Single Socket FC88A1 1667 supported; CPU TDP support 35W</td>
<td>Intel® Core™ Processor i9-9900, Single Socket FC88A1170 supported; CPU TDP 110W</td>
<td>4th Generation Intel® Core™ Processors, Intel® Xeon® Processor, Intel® Pentium® Processor, Intel® Atom® Processor, Single Socket LGA 1150 supported</td>
<td>4th Generation Intel® Core™ Processors, Intel® Xeon® Processor, Intel® Pentium® Processor, Single Socket LGA 1150 supported</td>
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<tr>
<td>Chipset</td>
<td>SG490</td>
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<td>SC712TQ</td>
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<td>SC732O-700B</td>
<td>SC7311-1080</td>
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<td>SC514T</td>
<td>SC7316-700B</td>
<td>SC732O-700B</td>
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<td>SC7313-700B</td>
<td>SC7220-700B</td>
<td>2U Heatsink: SNK-P0046A4</td>
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<td>SC7317-1080</td>
<td>SC7322-700B</td>
<td>2U Heatsink: SNK-P0046A4</td>
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<td>SC732D2-500B/865B</td>
<td>SC732D4-500B/865B</td>
<td>2U Heatsink: SNK-P0046A4</td>
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<td>SC731D-300B</td>
<td>SC7317-1080</td>
<td>SC732D2-500B/865B</td>
<td>SC7311-1080</td>
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<td>SC731D-300B</td>
<td>SC7317-1080</td>
<td>SC732D2-500B/865B</td>
<td>2U Heatsink: SNK-P0046A4</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 128GB ECC RDIMM, or 64GB ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 8GB with two 4GB SODIMM configurations in 2 DIMM slots, 1.35V only</td>
<td>Up to 32GB Unbuffered non-ECC, DDR3-1666 MHz in 4 DIMM slots; X10SBA-L supports up to 16GB with 2 DIMM slots</td>
<td>Up to 16GB non-ECC SODIMM in 2 slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCIe-E 3.0 x8, M Key 2242/2280/22110; Mini-PCIE-E with mSATA support</td>
<td>1 PCIe-E 2.0 x2, 1 Mini-PCIE-E with mSATA support (N/A in L)</td>
<td>1 PCIe-E 2.0 x4, 1 Mini-PCIE-E with mSATA support (N/A in L)</td>
<td>1 PCIe-E 3.0 x16, Mini-PCIE-E with mSATA support</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 4 SATA3 (6Gb/s) ports; RSTe, Intel® Rapid 0, 1, 5, 10</td>
<td>SoC controller for 2 SATA2 (3Gb/s) ports; Marvel 88SE9230 controller for 4 SATA3 (6Gb/s) ports; RAID 0, 1, 10 (X10SBA only)</td>
<td>Intel® Q87 Express controller for 6 SATA3 (6Gb/s) ports; RAID 0, 1, 5, 10</td>
<td>Intel® Q87 controller for 6 SATA3 (6Gb/s) ports; RAID 0, 1, 5, 10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual 10GBE-SFP+ from SoC; Dual 1GGE LAN with Intel® 82580</td>
<td>Dual LAN with Intel® Ethernet Controller 8115-AT 2 1Gbps; Intel® 82580i-D (Desktop Port)</td>
<td>Intel® X250 2.5Gbps; Intel® 82589i-D (Desktop Port)</td>
<td>Dual LAN with Intel® X7175M-2.0 and X210AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 Mini-PCIE-E with mSATA support (N/A in L)</td>
<td>1 Mini-PCIE-E with mSATA support (N/A in L)</td>
<td>1 Mini-PCIE-E with mSATA support (N/A in L)</td>
<td>1 Mini-PCIE-E with mSATA support (N/A in L)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 3.0 ports (2 rear); 5 USB 2.0 ports (+ 4 via headers + 1 Type A)</td>
<td>1 USB 3.0 port (1 rear + 1)</td>
<td>1 USB 3.0 port (1 rear + 2 via headers + 2 USB 2.0 ports (4 ports + 4 via headers))</td>
<td>2 USB 3.0 ports (2 rear + 2 via headers + 1 Type A)</td>
</tr>
<tr>
<td>Overboard I/O Devices</td>
<td>2 ports SuperIOOM TPM 2.0 Header</td>
<td>1 SATA DOM power connector</td>
<td>1 SATA DOM power connector</td>
<td>1 SATA DOM power connector; ALC 8885 HD Audio</td>
</tr>
<tr>
<td></td>
<td>1 COM Port (1 header)</td>
<td>5 COM ports (4 headers)</td>
<td>4 COM ports (4 headers)</td>
<td>2 COM ports (4 headers)</td>
</tr>
<tr>
<td>Manageability</td>
<td>Redfish 1.0 + iPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSM, SUM, SuperDoctor®'s Watchdog</td>
<td>SuperDoctor® S, SSM, Watchdog</td>
<td>SuperDoctor® S, SSM, Watchdog</td>
<td>SuperDoctor® S, SSM, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>SuperDoctor® S, SSM, Watchdog</td>
<td>24-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>Monitors CPU voltages, -1.89V, +12V, +3.3V, +1.2V (VDIMM), 6-pin fan status, Chassis intrusion header</td>
<td>Monitors CPU voltages, -1.89V, +12V, +3.3V, +1.2V (VDIMM), 6-pin fan status, Chassis intrusion header</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>Supports system management utility, System level control</td>
<td>Supports system management utility, System level control</td>
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<td>Supports system management utility, System level control</td>
</tr>
<tr>
<td>Other Features</td>
<td>8-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, 4 pin-12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, 4 pin-12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, WOL, 0°C -60°C operating temperature</td>
<td>8-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, WOL, 0°C -60°C operating temperature</td>
<td>8-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, WOL, 0°C -60°C operating temperature</td>
<td></td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>
Global Expansion
Providing Greater Economies of Scale and Accelerated Support to Data Center, Cloud Computing, AI, Enterprise IT, Hadoop/Big Data, HPC, 5G, Hyperscale, and Embedded Solutions Customers Worldwide

Worldwide Headquarters
San Jose, California, USA

America
• Supermicro’s Headquarters expansion:
  Over 1.5 million square foot Green Computing Park in San Jose, California signals the company’s increasing leadership in the IT industry
• One of the largest high-tech R&D, manufacturing, and business hubs in Silicon Valley
• East coast sales and service office

APAC
• Supermicro’s Asia Science and Technology Park is a key milestone in the company’s growth as a true global leader in the development of advanced, power saving computing technologies

EMEA
• Supermicro’s system integration facility and services in The Netherlands serves the dynamic, rapidly growing EMEA market with localized supply and time-to-market advantages
Better
Better Performance
Per Watt and Per Dollar

Faster
First-to-Market Innovation with the Highest Performance Server Designs

Greener
Reduced Environmental Impact and Lower TCO

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